Produced By:

Commodore International Spare Parts GmbH
Braunschweig, West Germany

SERVICE MANUAL

+ 1084 S-D

1084-D /S

PAL VERSION

MC-Service

CONTENTS

SPECIFICATIONS	1
IMPORTANT SERVICE SAFETY INFORMATION	2
INSTALLATION AND CHASSIS PARTS LOCATION	4
SERVICE INSTRUCTIONS	6
SERVICE ADJUSTMENT	13
SERVICE INFORMATION	19
Rear Connection Panel	19
P.C.B. Layouts	20
Circuit Diagram	25
Block Diagram	26
Parts List	27

SPECIFICATIONS

CRT : 13V 90 in line, 0.41 or 0.42mm Dot pitch, gray face, high resolution
Input signals : Digital RGBI, Analog RGB, PAL Composite, Separated Video (luma & chroma) and Audio
Input level : Digital RGBI: TTL
Analog RGB: Video 0.7 Vpp
Sync TTL level
Comp., Video, Chroma: 1 Vpp/75
Display size : 233(h) × 180(v) mm
Colors : RGBI: 16 colors
Analog RGB: Full colors
Comp: Full colors
Resolution : RGB: 2,000 characters (80 column × 25 lines)
Comp: 1,000 characters (40 column × 25 lines)

Video band width : RGBI: 15 MHz
Analog RGB: 10 MHz
Composite: 4.4 MHz
Separated Video: 5.2 MHz (Luma & Chroma)
Scanning frequency : Horizontal: 15.625 KHz
Vertical: 50 Hz
Audio : Input: 1 Vpp/47K
Output: 1W
Dimensions : 360(W) × 376(D) × 327.5(H) cm
Weight : Approx. 12 Kg
Power input : 220 VAC, 50 Hz, 0.5A
Power consumption : 75W

*Design, features and specifications are subject to change without notice.

IMPORTANT SERVICE SAFETY INFORMATION

WARNING:
An isolation transformer must be used between the AC supply and the AC plug of the color monitor before servicing or testing is performed on this monitor, since part of the chassis and the heat-sink are directly connected to one side of the AC line which could present a shock hazard. The chassis of the monitor should never be connected ground. Before servicing is performed, read all the precautions labelled on the CRT, chassis, and on the inside of the cabinet of this monitor.

X-RAY RADIATION WARNING NOTICE

WARNING: PARTS WHICH INFLUENCE X-RAY RADIATION IN HORIZONTAL DEFLECTION. HIGH VOLTAGE CIRCUITS AND PICTURE TUBE, ETC., ARE INDICATED BY (★) IN THE PARTS LIST FOR REPLACEMENT PURPOSES. USE ONLY THE TYPE SHOWN IN THE PARTS LIST.

PRODUCT SAFETY NOTICE

WARNING: FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER RECOMMENDED PARTS. THESE PARTS ARE IDENTIFIED BY SHADING AND BY ( ) ON THE SCEMATIC DIAGRAM.

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NOTICE D'AVERTISSEMENT DE RADIATION AUX RAYONS X

AVERTISSEMENT: LES PIECES QUI INFLUENCENT LES RAYONS X AU COURSE DE LA DEVIATION HORIZONTALE, LES CIRCUITS A HAUTE TENSION ET LE TUBE-IMAGE, ETC. SONT ACCOMPAGNESS D'UN ASTERIQUE (★) DANS LE CATACLOGUE DE PIECES DETACHEES. DANS LE CAS D'UN REMPLACEMENT, UTILISER UNIQUEMENT LES MODELES DE PIECES INDIQUES DANS LE CATALOGUE DE PIECES DETACHEES.

NOTICE DE SECURITE

AVERTISSEMENT: POUR ETRE ASSURE D'UNE SECURITE OPTIMENT A TOUT MOMENT, REMPLACER LES COMPOSANTS CRITIQUES UNIQUEMENT PAR LES PIECES RECOMMANDEES PAR LE FABRICANT DE L'APPAREIL, CES PIECES SONT IDENTIFIEES PAR UNE ZONE D'OMBRE ET PAR SYMBOLE ( ) SUR LE SCHEMA DE MONTAGE.

The manufacturer's warranty and liabilities will be void if any unauthorized modifications, alterations or additions are made.

For replacement purposes, use the same type or specified type of wire and cable, ensuring that the positioning of the wires is followed (especially for H.V. and power supply circuits). Use of alternative wiring or positioning could result in damage to the set or in a shock or fire hazard.

The picture tube used in this monitor employs integral implosion protection and should be replaced with the tube of the same type number for continued safety.

When handling the CRT, shatter-proof goggles must be worn after completely discharging the high voltage circuit. Do not lift the picture tube by the neck.

WARNING: BEFORE RETURNING THE MONITOR TO THE CUSTOMER PERFORM THE FOLLOWING SAFETY CHECKS IN ITEMS, 1, 2 AND 3 FOR THE CONTINUED SAFETY OF THE SERVICEMENT AND CUSTOMER.

****

AVERTISSEMENT: AVANT DE RETOURNER LE MONITEUR AU CLIENT, PROCEDER AUX CONTROLES DE SECURITE DES ITEMS 1, 2 ET 3 POUR ASSURER UNE SECURITE OPTIMUM AU REPARATEUR COMME AU CLIENT.

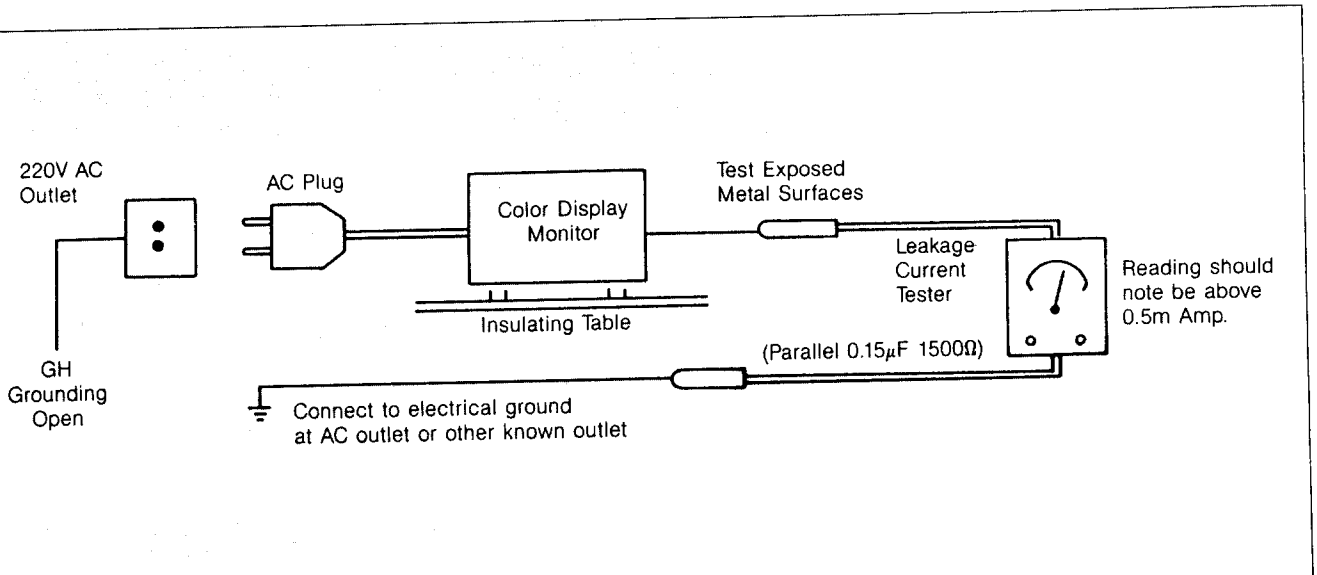
1. Leakage Current Test:

Plug the AC power cord directly into a 220V AC outlet (Do not use an isolation transformer for this test).

Measure the current flowing from all exposed metal parts of the cabinet, including the rear cover, (handle bracket, wooden cabinet, screw heads, video input terminal, shaft, etc.) to the ground pin of an AC outlet or to a known ground. (water-pipe, conduit, etc.)

This leakage test should be performed with the AC switch ON and repeated with the AC switch OFF. The measured current must be less than 0.5 milliamp.

Any measurements not within the limits outlined above are indicative of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



AC Leakage Test

2. Resistance Test:

With the AC plug is removed from the 220VAC outlet, place a jumper across the two attachment plug prongs except Grounding Pin. Turn the switch ON. Using an ohmmeter, connect one lead to the jumped AC plug and touch the other lead to each exposed video input terminal, and to any exposed metal parts. The resistance measured should not be less than 1.0 megohm or grater than 5.2 megohms. Any resistance value below or above this range indicates an abnormality which requires corrective action.

Repeat the test with the AC switch in the OFF position.

3. Wire Routine:

In case of removisng Wire Clamp during service, make sure to return Clamp and Wiring routes to original positions after servicing.

INSTALLATION AND CHASSIS PARTS LOCATION

INSTALLATION OF THIS COLOR MONITOR CHASSIS AND INITIAL CHECK POINTS

When installing this color monitor chassis, first check operation on a black and white telecast. Check and if necessary, adjust centering, size, and locus. Observe the picture for proper black and white reproduction (tracking) over all areas of the screen. No objectionable color shading or fringing should be evident. If shading or fringing is evident, degauss the monitor.

In most instances after installation, a technician need only degauss the faceplate area are and touch-up the static (center) convergence.

CHASSIS PARTS LOCATION

The degaussing coil should be moved slowly around the front faceplate of the picture tube and around the sides and front of the monitor. The coil should then be withdrawn slowly to a distance of at least six to ten feet before disconnecting from the AC supply.

This monitor chassis is equipped with an automatic degaussing circuit which effectively demagnetizes the faceplate each time the monitor is switched ON after having been OFF for at least ten minutes.

Note:
See 'SERVICE ADJUSTMENT' on page 12 for details of adjusting procedures.

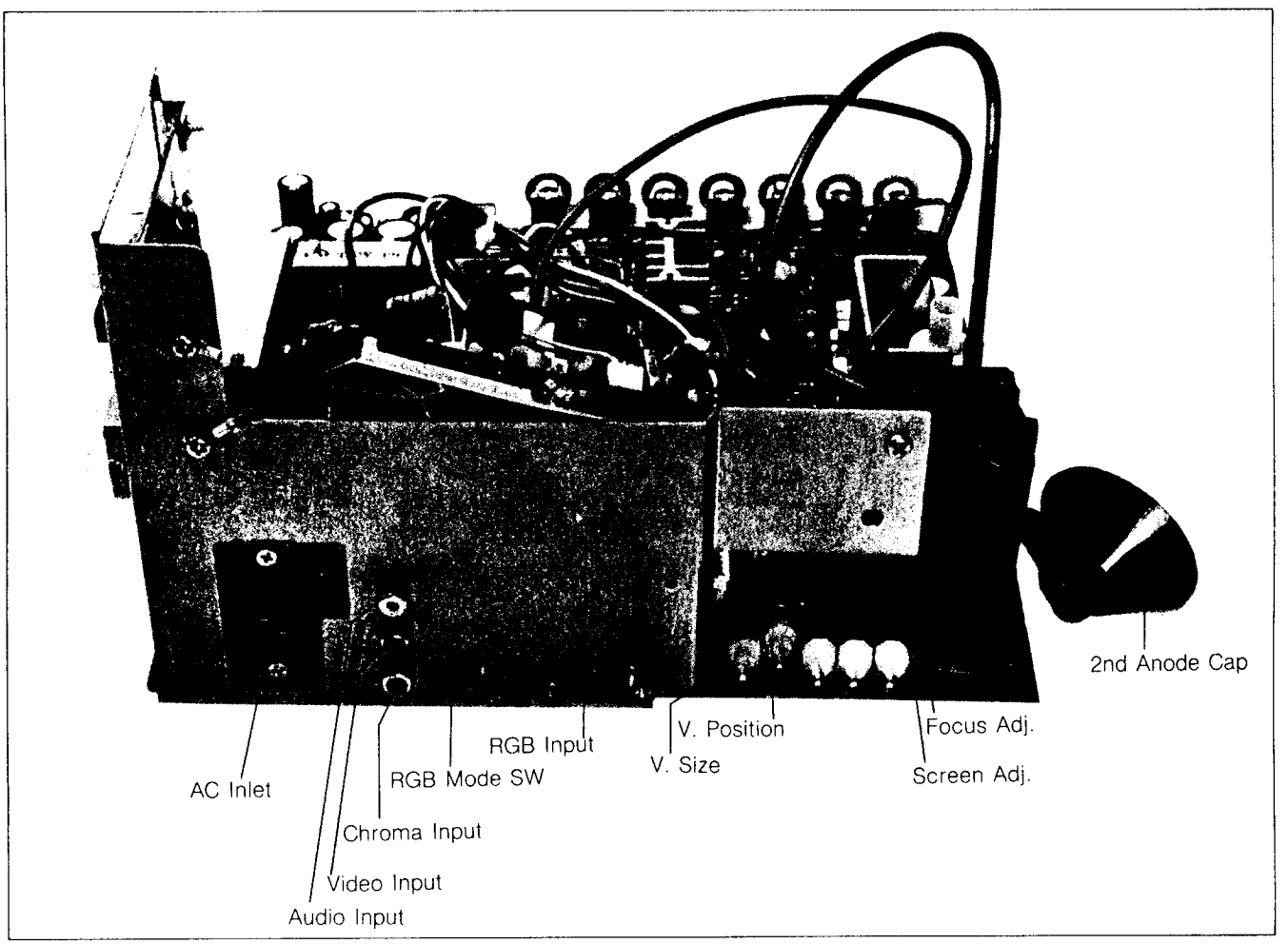
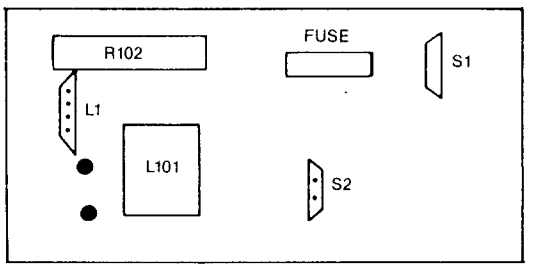
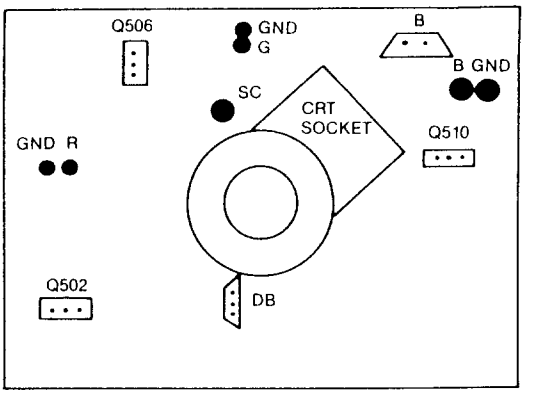


Fig. 1



POWER BOARD



NECK BOARD

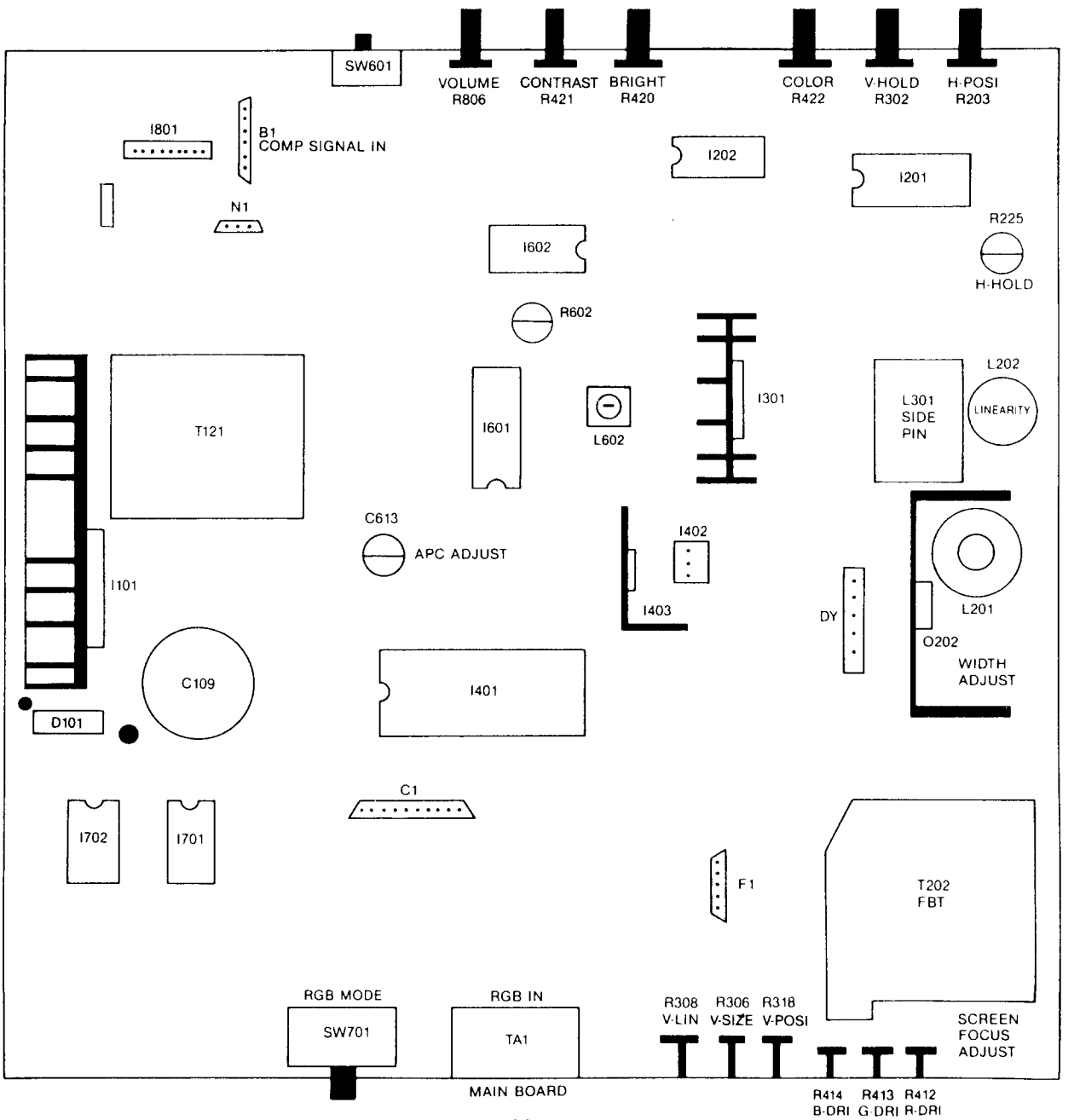


Fig. 2

SERVICE INSTRUCTIONS

CHASSIS REMOVAL (SEE FIGS. 3/4)

1. Remove the six screws securing the rear cover of the cabinet. (See Fig. 3)
2. Pull the rear cabinet about 10cm to the rear.
3. Remove (pull to the rear) the speaker connection near the audio output at the left side of the cabinet. (See Fig. 4)
4. Remove the rear cabinet.
5. Remove solder connection of the black wire connecting CRT grounding and neck p.c. board, then remove the neck p.c. board from the picture tube. (See Fig. 5)
6. Remove the second anode cap.
7. Remove the connectors as follows:
   1) Deflection yoke connector
   2) Degaussing coil connector
   3) Speaker connector
   4) Power indicator connector
8. Remove the two screws securing the power switch.
9. Take the chassis out of the cabinet.
10. To install the chassis, repeat the above procedure in reverse order.

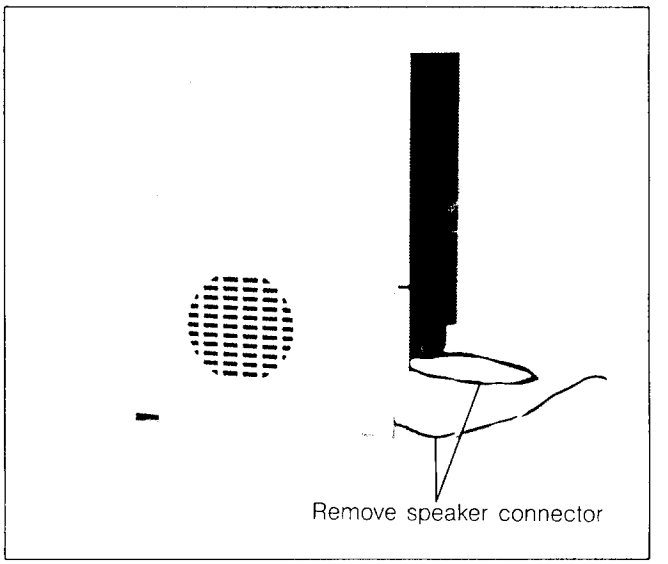


Fig. 4

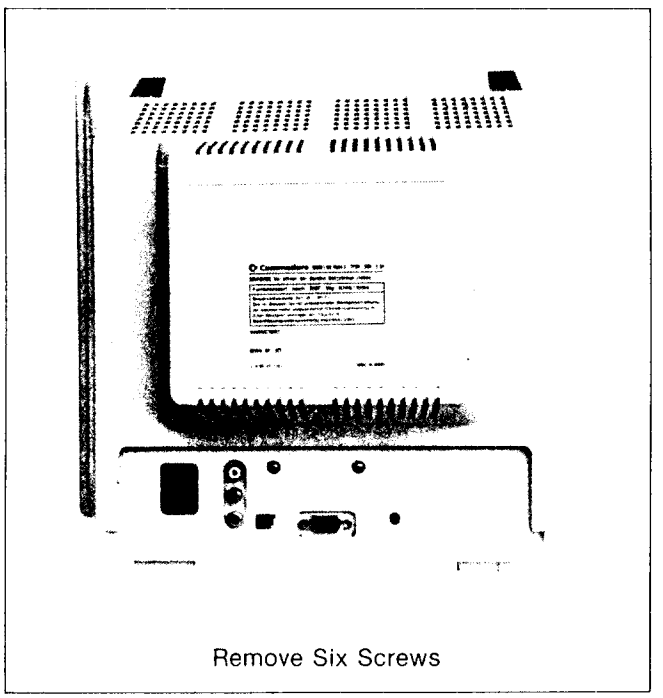


Fig. 3

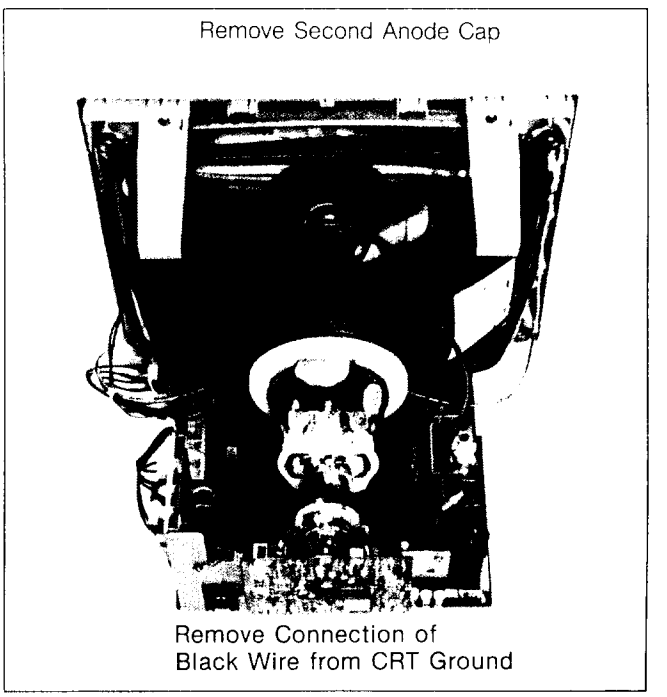


Fig. 5

MAIN CHASSIS SERVICING

1. Remove the rear cabinet.
2. Repairing of main chassis can be done easily, if stood as shown in Fig. 6.

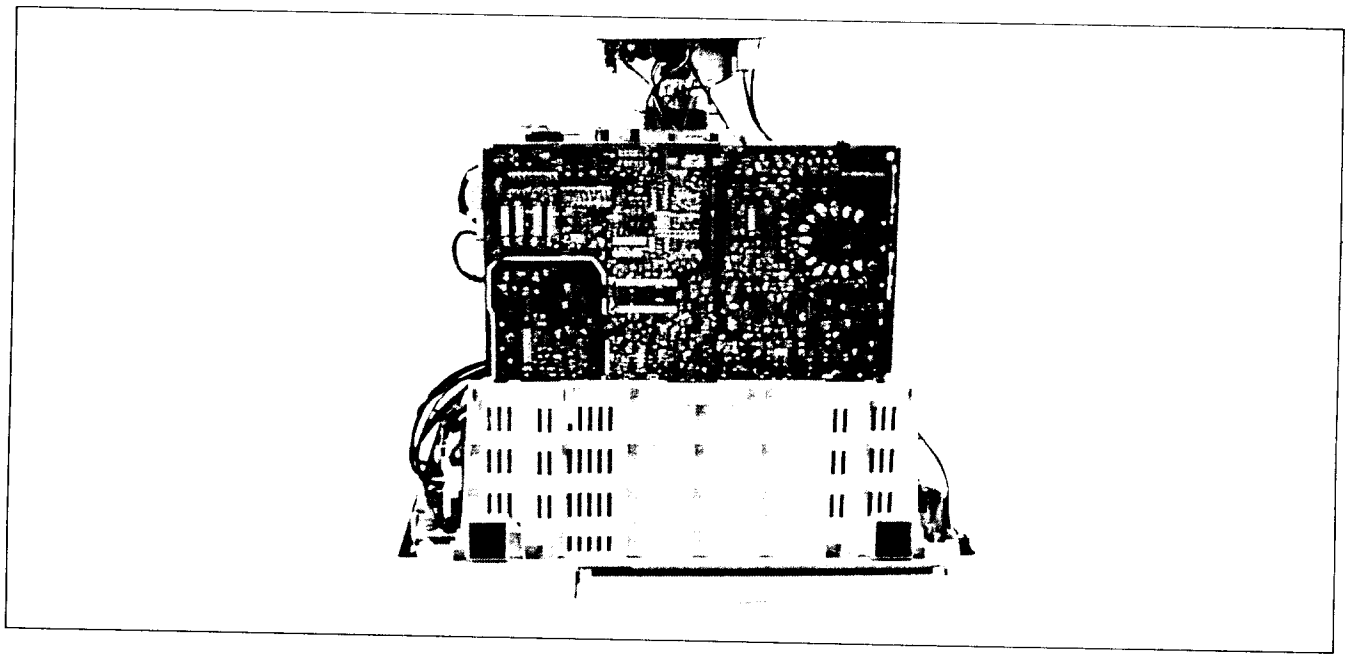


Fig. 6

PICTURE TUBE REMOVAL

In order to remove or replace the picture tube, the chassis must first be removed. Refer to Chassis Removal procedure. After the chassis has been removed, proceed as follows.

1. Loosen the clamping screws on the deflection yoke, purity and static convergence magnet, and remove them.
2. Remove four screws securing the picture tube to the front cabinet.

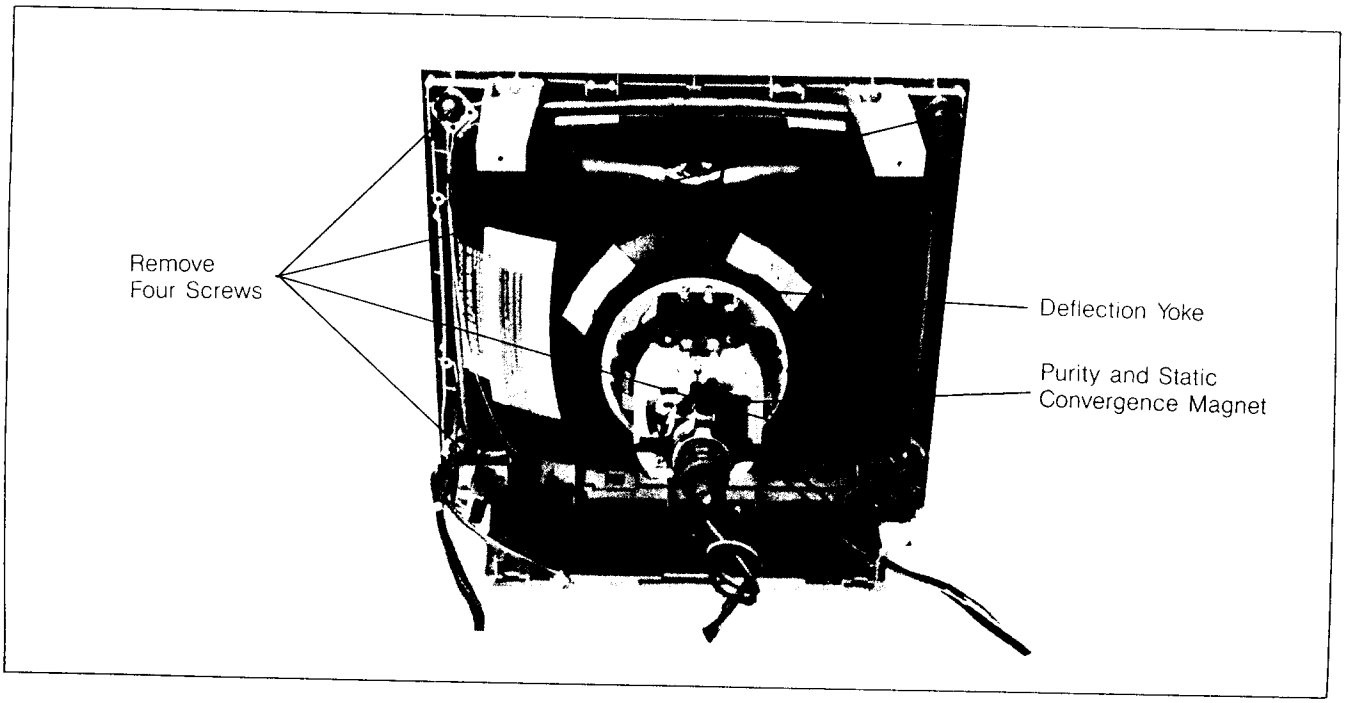


Fig. 7

PRECAUTIONS FOR REPAIRS

1. Check for bad contacts on connectors on the main PC board and elsewhere by applying hand pressure.
2. Check AC power supply for problems-e.g. blown fuse, bad switch or AC outlet.
3. Check for instermittents or defective soldering on the main board by striking the reverse side of the board gently with an insulated bar.
4. When soldering PC boards, limit the soldering iron temperature to 500°F (200°C) to avoide peeling of the foil.
5. When soldering transistors or other semiconductors, use tweezers or a heat sink clip as shown in Fig. 8 to prevent heat damage.

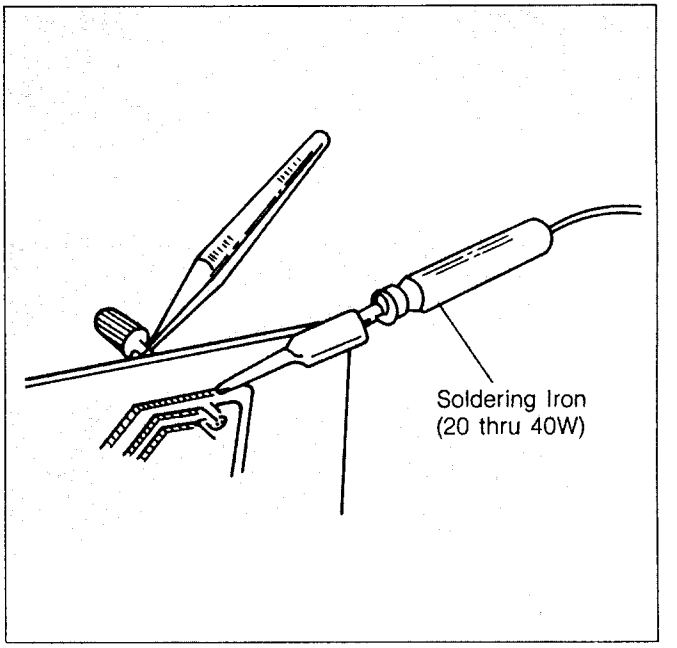


Fig. 8

TROUBLESHOOTING

As major parts of this chassis employ ICs, defects can often be isolated by referring to the table of symptoms in Table 1. Additional checks of transistor and IC DC voltages and waveforms as shown on the schematic will assist in pinpointing the problem area. Remember also to check for faulty resistors and capacitors, etc. around defective ICs and transistors.

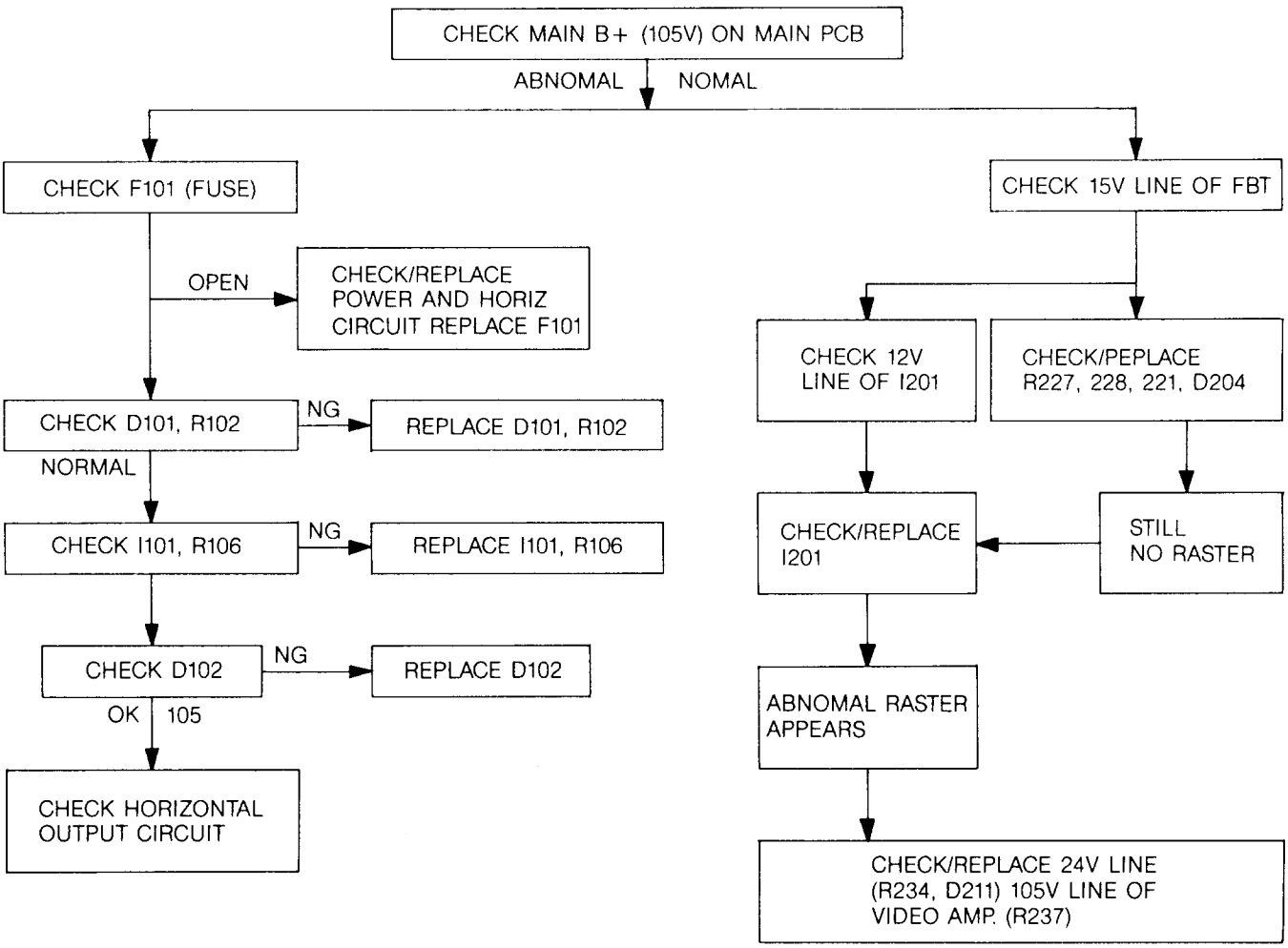
IC/TR	SYMPTOM
I101: POWER SUPPLY CIRCUIT	NO RASTER
I201: HORIZ OSC, DRIVE, SYNC SEP CIRCUIT	NO RASTER, NOPICTURE, NO HIGH VOLTAGE UNSTABLE PICTURE
I202: SYNC PROCESSING CIRCUIT	PGB MODE UNSTABLE PICTURE
I301: VERT OSC, OUTPUT CIRCUIT	HORIZONTAL LINE ONLY, POOR VERTICAL SCAN
I401: VIDEO PREAMP, COMPOSIT COLOR MATRIX, MODE SWITCHING RGB AND COMPOSIT SIGNAL, AUTO OUT-OFF CONTROL CIRCUITS	NO PICTURE OR POOR PICTURE, NO AUTO CUT-OFF CONTROL, NO MODE SWITCHING OF COMPOSITE AND RGB SIGNAL
I402: 12V REGULATOR	NO PICTURE OF POOR PICTURE
I403: 5V REGULATOR	RGB MODE NO PICTURE, POOR PICTRE
I601: COMPOSIT COLOR CIRCUIT	NO COLOR, UNSTABLE COLOR
I602: MODE SWITCHING CIRCUIT	NO MODE SWITCHING, NO PICTURE, UNSTABLE PICTURE
I701, I702: TTLI CIRCUIT	TTL RGB MODE. NO PICTURE. POOR PICTURE
I801: SOUND CIRCUIT	NO SOUND OR POOR SOUND
Q201: HORIZ DRIVE CIRCUIT	NO PICTURE, NO HIGH VOLTAGE
Q202: HORIZ OUTPUT CIRCUIT	NO PICTURE, NO HIGH VOLTAGE
Q203: SYNC SWITCHING CIRCUIT	RGB MODE, UNSTABLE PICTURE
Q601: COLOR INPUT BUFFER CIRCUIT	NO COLOR, POOR COLOR
Q602: COMPOSIT BUFFER CIRCUIT	COMP/SEP MODE, NO VIDEO OR POOR VIDEO
Q701, Q702, Q703: TTL BUFFER	TTL MODE, NO PICTURE OR POOR PICTURE
Q704: TTL COLOR MATRIX CIRCUIT	TTL MODE, NO BROWN COLOR, OR UNSTABLE COLOR
Q501-Q504: R OUTPUT CIRCUIT	NO RED PICTURE
Q505-508: G OUTPUT CIRCUIT	NO GREEN PICTURE
Q509-Q512: B OUTPUT CIRCUIT	NO BLUE PICTURE

TROUBLESHOOTING CHARTS

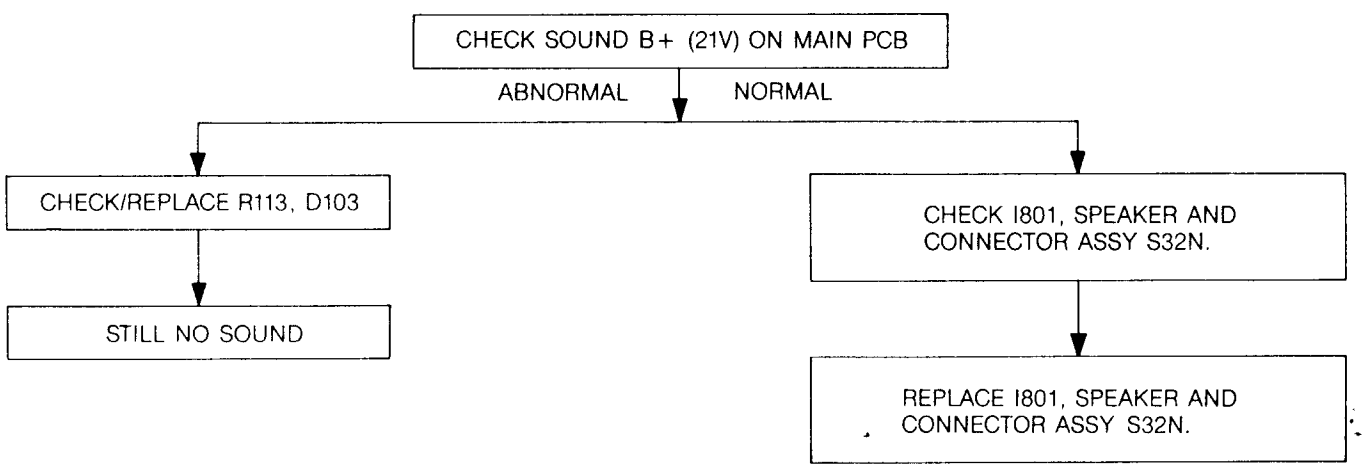
The following charts are devoted to troubleshooting which, if followed carefully, will assist you in tracking down a fault to the collect stage. In order to utilize the charts (fault trees), firstly establish the complaint, i.e. no raster.

Locate the chart applicable and then progress through the various alternatives until a final block the offending components or stage.

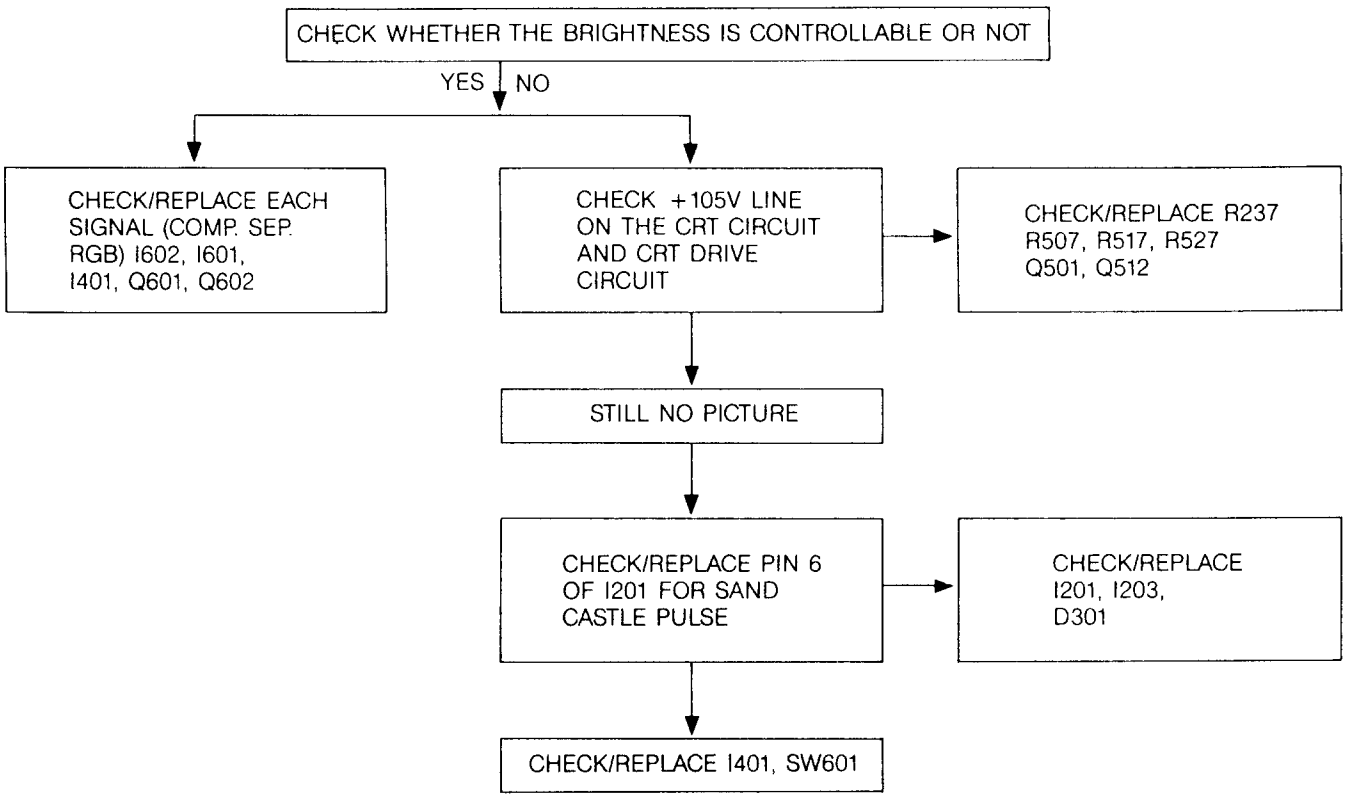
1. NO RASTER



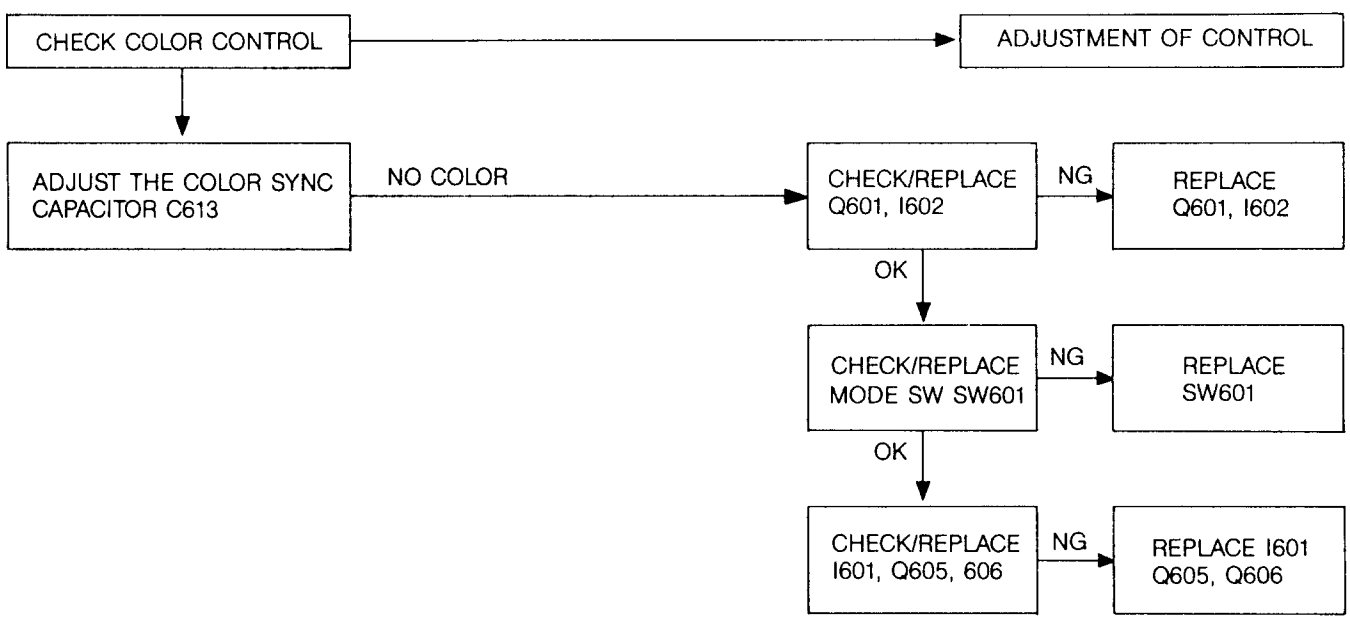
2. NO SOUND


CHECK SOUND B+ (21V) ON MAIN PCB
ABNORMAL
NORMAL
CHECK/REPLACE R113, D103
STILL NO SOUND
CHECK I801, SPEAKER AND CONNECTOR ASSY S32N.
REPLACE I801, SPEAKER AND CONNECTOR ASSY S32N.

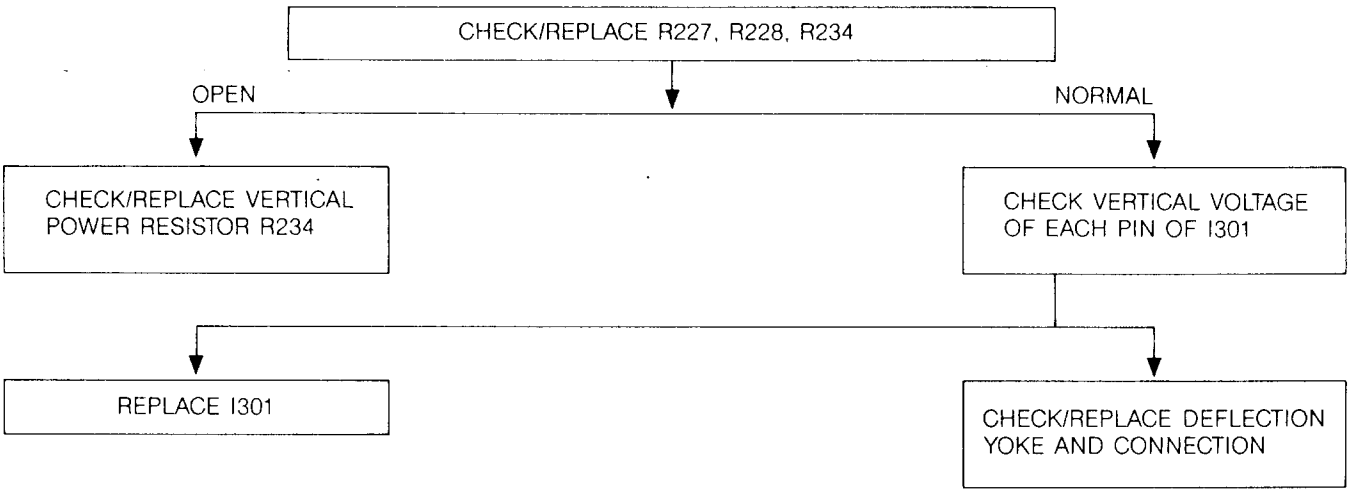
3. NO PICTURE


CHECK WHETHER THE BRIGHTNESS IS CONTROLLABLE OR NOT
YES
NO
CHECK/REPLACE EACH SIGNAL (COMP. SEP. RGB) I602, I601, I401, Q601, Q602
CHECK +105V LINE ON THE CRT CIRCUIT AND CRT DRIVE CIRCUIT
CHECK/REPLACE R237 R507, R517, R527 Q501, Q512
STILL NO PICTURE
CHECK/REPLACE PIN 6 OF I201 FOR SAND CASTLE PULSE
CHECK/REPLACE I201, I203, D301
CHECK/REPLACE I401, SW601

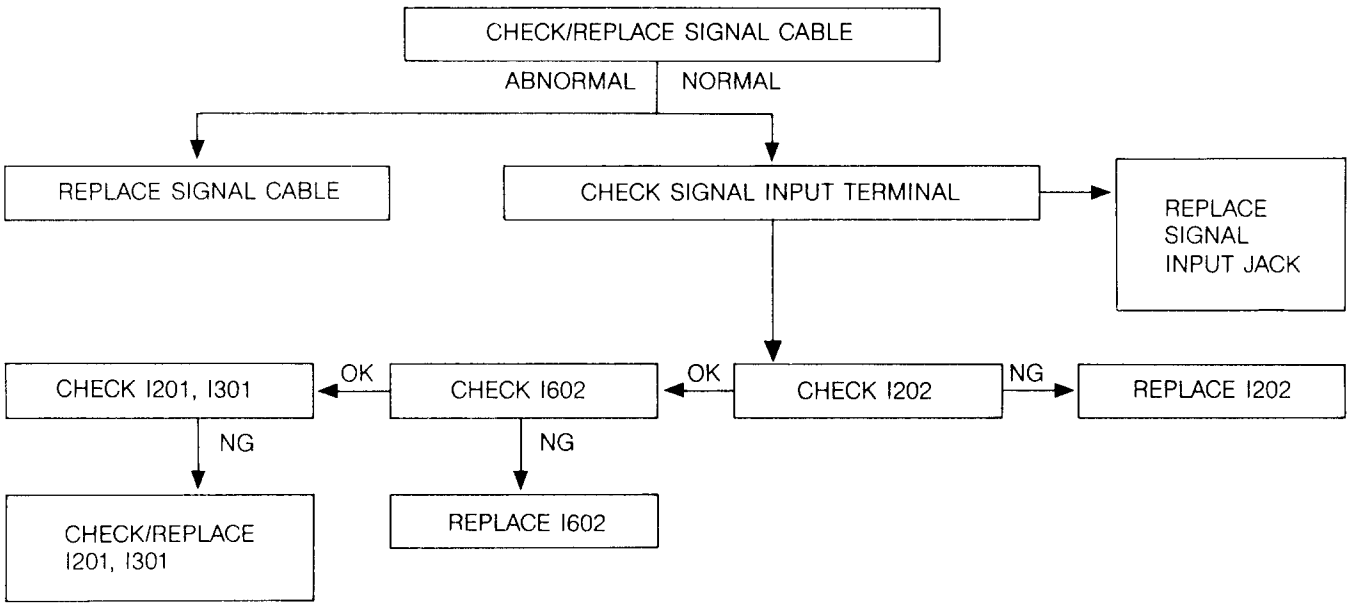
4. NO COLOR (FOR COMP & SET MODE)



5. NO VERTICAL SCAN (ONE HORIZ, ONE LINE RASTER)



6. OUT OF VERTICAL SYNC AND HORIZ. SYNC (COMPOSIT SYNC)



DESOLDERING OF ICS AND TR

The following tools are suggested for desoldering semiconductors:

1. Desoldering tools

a) Hand suction type-Solda-Pull® (model SS011, Edsyn Inc. Van Nuys, CA) or equivalent.

b) Wire-Wick type-Solder-Wicle® (size = 4, Solder Removal Co., Covina, CA) or equivalent.

2. Soldering Iron—Maximum wattage recommended is 40W. Higher power soldering irons may damage the copper foil of board.

Note:

When desoldering parts, heat the joint and remove the solder quickly. The PC foil may peel from the board if heat is applied for too long.

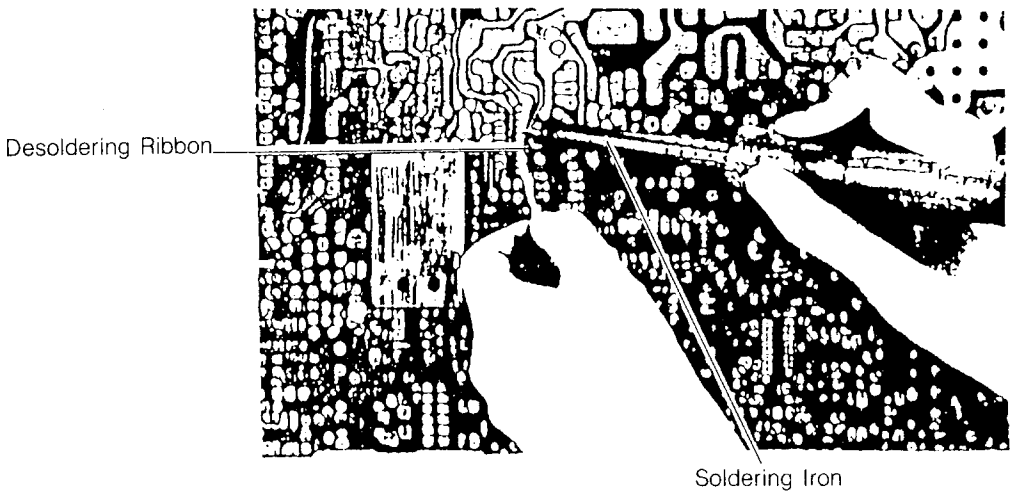


Fig. 9

SERVICE ADJUSTMENT

FOCUS ADJUSTMENT

Adjust the focus control, located on the H.V. unit (T202) for maximum overall definition and fine picture detail with brightness and contrast controls set at normal viewing levels.

VERTICAL SIZE (R306) ADJUSTMENT

The vertical size (height) control is the screwdrive adjustment that is accessible through the front cover. Location of the control is shown in Figs. 1 and 10. These controls must be adjusted until the correct picture or test pattern is obtained.

COLOUR AMPLITUDE AND PHASE ADJUSTMENT

1. Receive PAL/DEM-bar signal.
2. Connect the probe of oscilloscope to B-Y output.
3. Adjust L602 and R602 in order to make wave form flat on screen.
4. Receiver color bar signal instead of DEM signal.
5. Adjust L602 to make B-Y output stable.

CIRCUIT PROTECTION

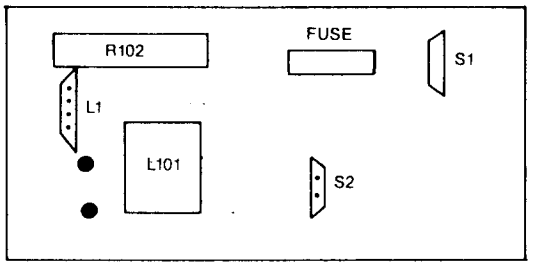
4.0A fuse, mounted on the main PC board, has been provided to protect the power out put circuit. See Figs. 2 and 10.

HORIZONTAL HOLD (R225) ADJUSTMENT (SEE FIGS. 2 AND 10)

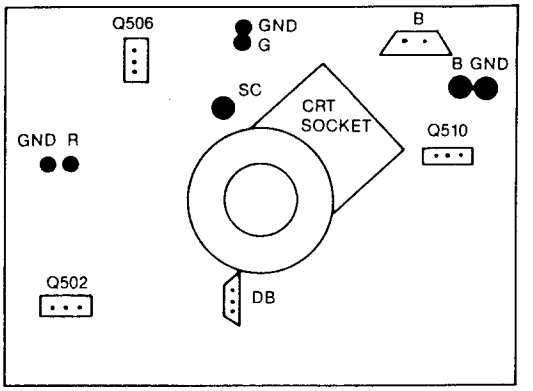
Receive the color signal.

Set the brightness and contrast controls to a normal position. A warm-up period of at least five minutes should be allowed and alignment should be done.

1. Connect a jumper wire between pin 12 of I201 and ground line.
2. Adjust the horiz, hold control (R225) until the picture is stable. (Tune R225 to 15.734 KHz)



POWER BOARD



NECK BOARD

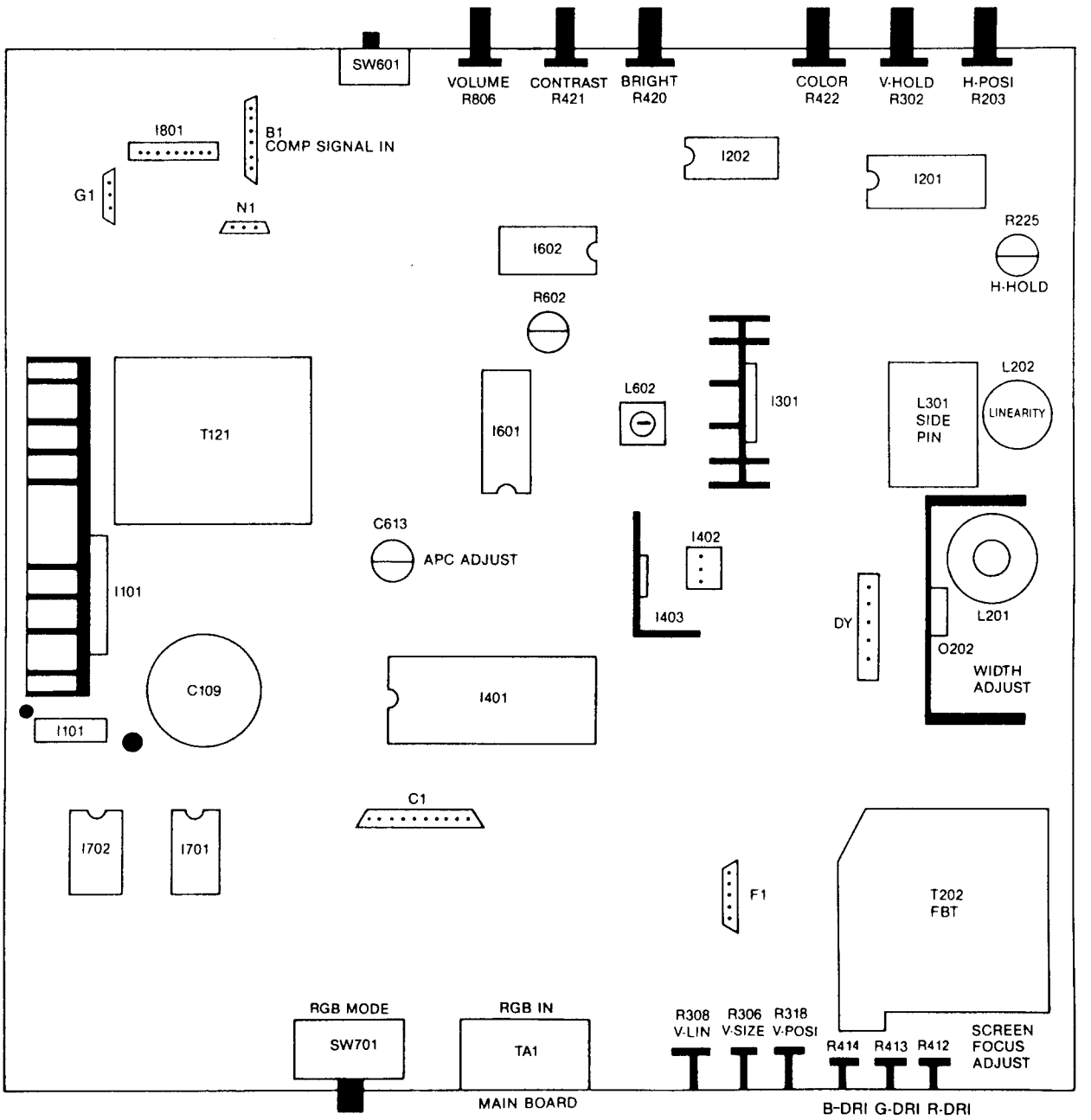


Fig. 10

APC ADJUSTMENT (SEE FIG. 10)

This adjustment should be made only when the chroma/video (I601) or parts of the APC circuit have been replaced, or when the picture colors are unstable. For adjustment, use the APC, ADJ control (C613).

Procedures

1. Apply a color bar signal to the video input terminal.
2. Turn the color control fully clockwise and position the tint control at the mechanical center.
3. Connect a jumper wire between pin 11 of I201 and ground line.
4. Turn the APC ADJ. control (C613) with an insulated screwdriver until the color bar on the screen is synchronized.
5. Removed the jumper wire and capacitor.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verifty that the monitor is operating within safe and efficient design limitations as specified:

1. Remove cabinet back.
2. Operate monitor for at least 15 minutes at 220V AC line with video signal or test signal properly tuned in.
3. Rotate the brightness and contrast controls to maximum clockwise position.
4. Connect an accurate high voltage meter to CRT anode.
   Reading should be between 22 KV and 24 KV.

CONTROLE DE HAUTE TENSION

La haute tension n'est pas reglable mais doit etre controlee afin de s'assure que le moniteur fonctionne d'une mesaure de securite et d'efficacite determinee par le cahier des charges. Pour le faire:

1. Enlever le couvercle d'arriere du cabinet.
2. Faire fonctionner le moniteur pendant au moins 15 minutes a la ligne de 220V, C.A. en accordant correctement le signal de video ou celui d'essai.
3. Tourner a fond les commandes de brillance et de contraste dans le sens de aiguilles d'une montre.
4. Brancher un voltmentre de haute precision sur l'andoe de CRT. La valeur relevee doit etre comprise entere 22 KV et 24 KV.

VERTICAL POSITION CONTROL (R318) ADJUSTMENT (SEE FIG. 10)

The vertical position control (R318) is the VR which controls the vertical position of the picture.
If the vertical position of the picture is not at the center of the picture tube, adjust the vertical position by turning this control.

VERTICAL LINEARITY CONTROL (R308) ADJUSTING (SEE FIG. 10)

The vertical linearity control (R308) is the VR which controls the vertical lineatrity of the picture.
After received cross hatch pattern, adjust the vertical linearity by turning this control.

SCREEN ADJUSTMENT

It is important to adjust the screen volume in Auto white Balance system. Receive cross hatch signal. Set the contrast and bright volume to a maximum position. Turn the screen volume (see. fig. 10) to the clockwise until find out retrace line. After that, Turn the screen volume to the unclockwise until just disappear joint.
Confirm the state of video cut off with contrast and bright control.
If unstable cutoff screen, readjust with above action.

COLOR PURITY ADJUSTMENT

For best resuslts, it is recommended that the purity adjustment be made in the final location. If the monitor will be moved, perform this adjustment with it facing east or west. The monitor must have been operating 15 minutes prior to this procedure and the faceplate of the CRT must be at room temperature.
The monitor is equipped with an automatic degaussing circuit. However, if the CRT shadow mask has become excessively magnetized, it may be necessary to degauss it with a manual coil. Do not switch the coil OFF while the raster shows any effect from the coil.
Purity magnets are used for color purity and vert, centering adjustment.
Purity adjustment procedure is as follows.

NOTE:
Before attempting any purity adjustments, the receiver should be operated for at least 15 minutes.

1. Demagnetize the picture tube and cabinet using a degaussing coil.
2. Turn the CONTRAST and BRIGHTNESS controls to maximum.
3. Open the R509 and R529 to provide only a green raster.
4. Loosen the clamp screw holding the yoke, and slide the yoke brackward to provide vertical green belt (zone) in the picture screen.
5. Remove the Rubber Wedges.
6. Rotate and spread the tabs of the purity magnet (See Fig. 7) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically.
7. Move the yoke slowly forward until a uniform green screen is obtained.
   Tighten the clamp screw of the yoke temporarity.
8. Check the purity of the red and blue raster by opening the cathode resistor.
9. Obtain a while raster, referring to "Black and white tracking". (Sold the opened resistor)
10. Proceed with convergence adjustment.

STATIC CONVERGENCE ADJUSTMENT

A recently developed deflection yoke and electron guns construction has been used on this equipment in combination with in-line guns and black stripe screen to make a barrel-type magnetic-field distribution for vertical deflection and pin-cushion-type magnetic field for horizontal deflection with which a self-converging system can be obtained, this type is different from conventional unity magnetic field distribution type deflection yoke, 4-pole magnets and 6-pole magnets are employed for static convergence instead of a convergence yoke.

1. A crosshatch signal should be connected to the video input terminal of the monitor.
2. Adjust the BRIGHTNESS and CONTRAST Controls for well defined pattern.
3. Adjust two tabs of the 4-pole Magnets to change the angle between them (See Fig. 11) and superimpose red and blue vertical vertical lines in the center area of the picture screen. (See Fig. 12)
4. Turn both tabs at the same time keeping their angles constant to superimpose red and blue horizontal lines at the center of the screen. (See Fig. 12)
5. Adjust two tabs of 6-pole Magnets to superimpose red/blue line with green one. Adjust the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-pole Magnets and 6-pole Magnets interact and make dot movement complex.

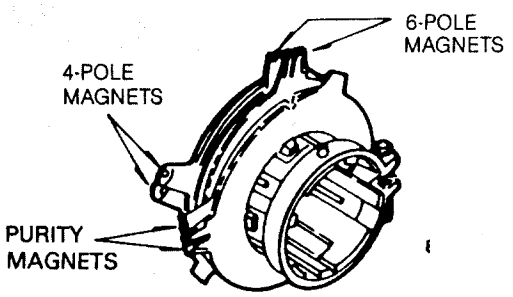


Fig. 11 CONVERGENCE MAGNET ASSEMBLY

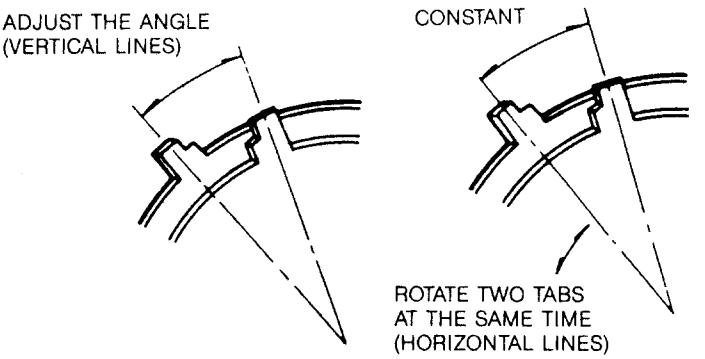


Fig. 13 ADJUSTMENT OF MAGNETS

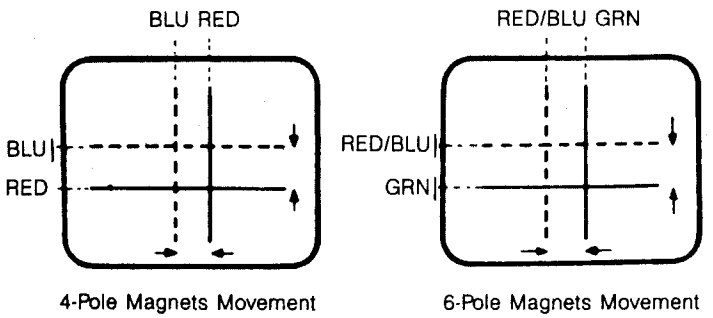


Fig. 12 CENTER CONVERGENCE BY CONVERGENCE MAGNETS

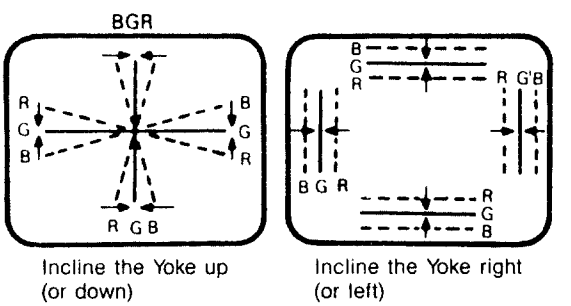


Fig. 14 CIRCUMFERENCE CONVERGENCE BY DEF. YOKE

PRECISE ADJUSTMENT OF DYNAMIC CONVERGENCE (SEE FIG. 11-16)

NOTE:
This adjustment requires trubber Wedge Kit.

1. Loosen the clamping screw of deflection yoke to allow the yoke to tilt.
2. Place a wedge as shown in Fig. 15 temporarily. (Do not remove cover paper on adhesive part of the wedge.)
3. Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See Fig. 14) Push the mounted wedge into the space between picture tube and the yoke to hold the yoke temporarily.
4. Place other wedge into bottom space and remove the cover paper to slick.
5. Tilt front of the yoke right or left to obtain better convergence in circumference. (See Fig. 14)
6. Hold the yoke position and put another wedge in either upper space.
   Remove cover paper and stick the wedge on picture tube to hold the yoke.
7. Detach the temporarily mounted wedge and put it in another upper space.
   Stick it on picture tube to fix the yoke.
8. After placing three wedges, recheck overall convergence.
   Tighten the screw firmly to hold the yoke tightly in place.
9. Stick 3 adhesive tapes on wedges as shown in Fig. 15.

BLACK AND WHITE TRACKING

The purpose of this procedure is to optimize the picture tube to obtain a good black and white picture at all brightness levels, while at the same time, achieving maximum usable brightness. Normal purity adjustment must precede this procedure.

1. Set the Video mode switch to SEP Mode position.
2. Connect the black signal to SEP input terminal.
3. Set the brightness and contrast control at the mechanical Max position.
4. Rotate screen VR fully counter clockwise until retrace lines appear on the screen.
5. Rotate screen VR fully counter clockwise until retrace lines appear on the screen.
6. Slowly turn the screen control on FBT anticlockwise until retrace lines just disappear on the screen for Auto Cut off control.
7. Receiver the white signal.
8. Adjust R.G.B. drive controls (R412, R413, R414) to produce a hi-lite white screen.
9. Set the brightness and picture controls to minimum.
   Then, the raster should appear dark.
10. Move the brightness control until a dim raster is obtained.
11. If necessary, touch-up adjustment of the screen controls to obtain best white uniformity on the CRT screen.
12. Set the brightness and picture controls at the mechanical center position.
    If neccesaty adjust the R.G.B. drive controls to produce a uniform black and white picture.

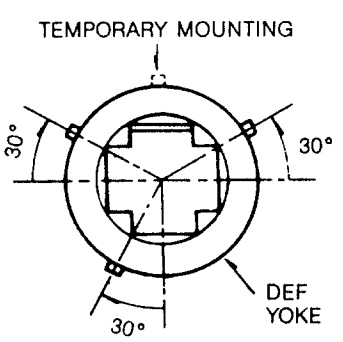
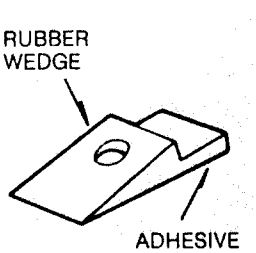


Fig. 15 Rubber Wedges Location



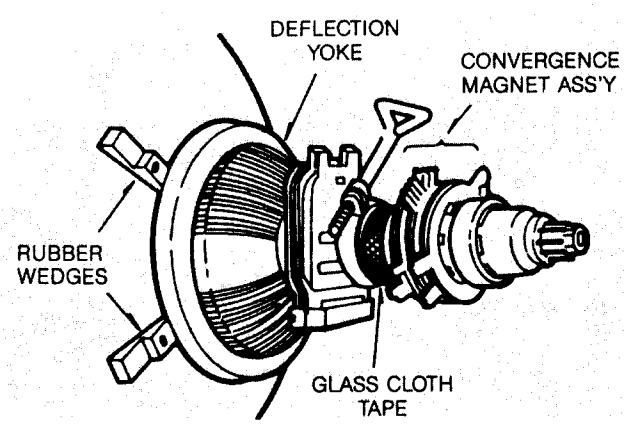


Fig. 16 Picture Tube Neck Components Location

SERVICE INFORMATION

1. REAR CONNECTION PANEL

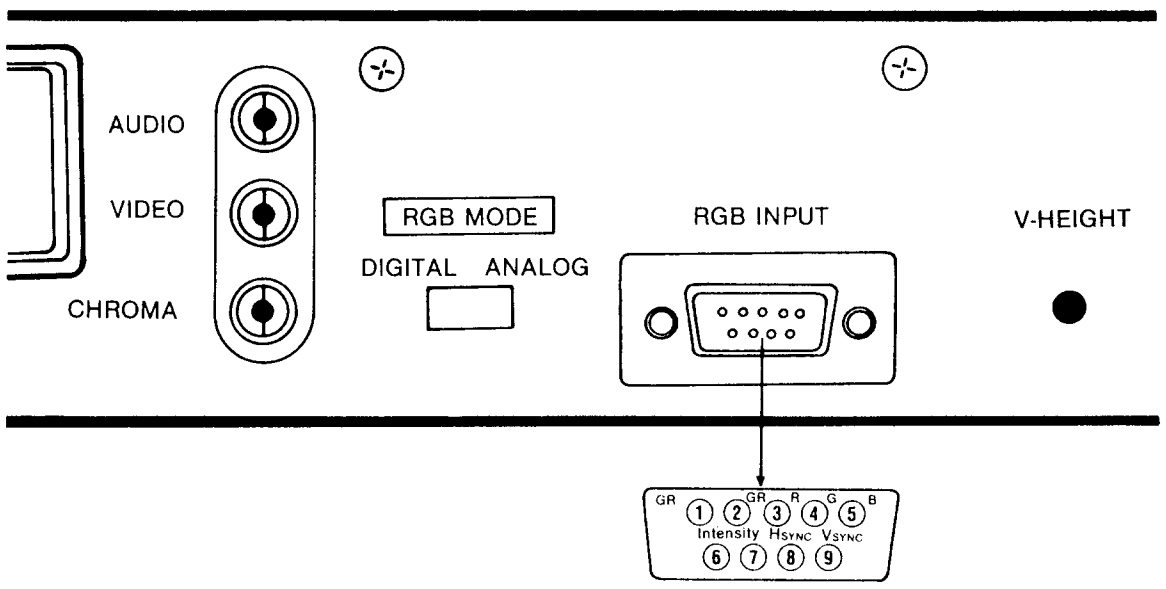


Fig. 17

Pin. No.	DIGITAL	ANALOG
1	Ground	Ground
2	Ground	Ground
3	Red	Red
4	Green	Green
5	Blue	Blue
6	Intensity	—
7	—	Sync.
8	H. Sync.	—
9	V. Sync.	—
Shell	Shield	Shield
Polarity	Video·····Positive Sync.·····Negative or Positive	Vidoe·····Positive Sync.·····Negative

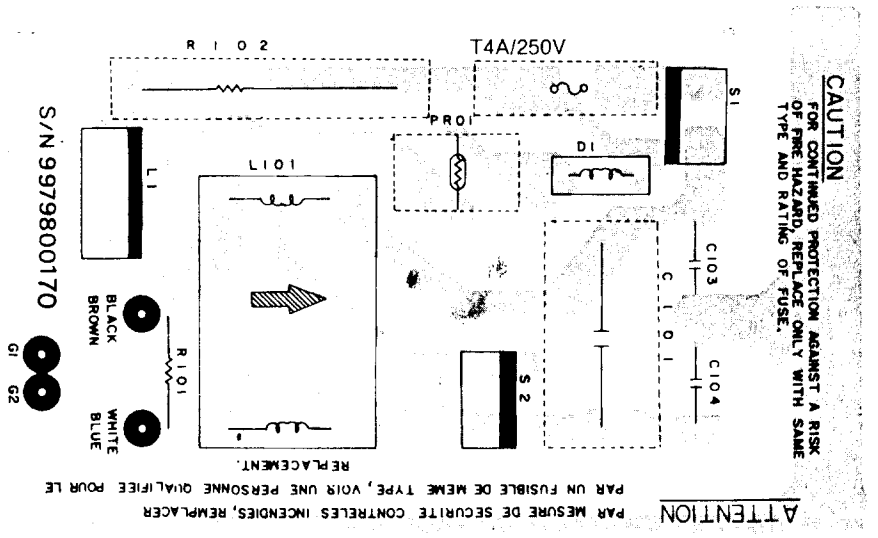


Fig. 18-a Top View

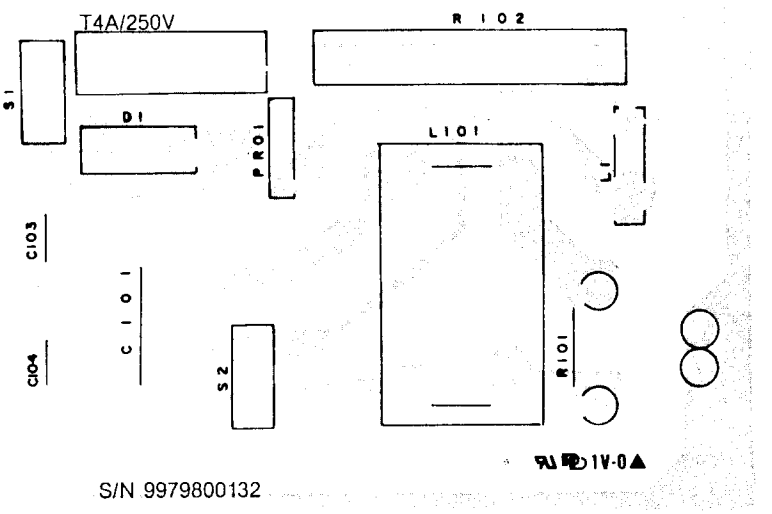


Fig. 18-b Bottom View

3. NECK P.C. BOARD

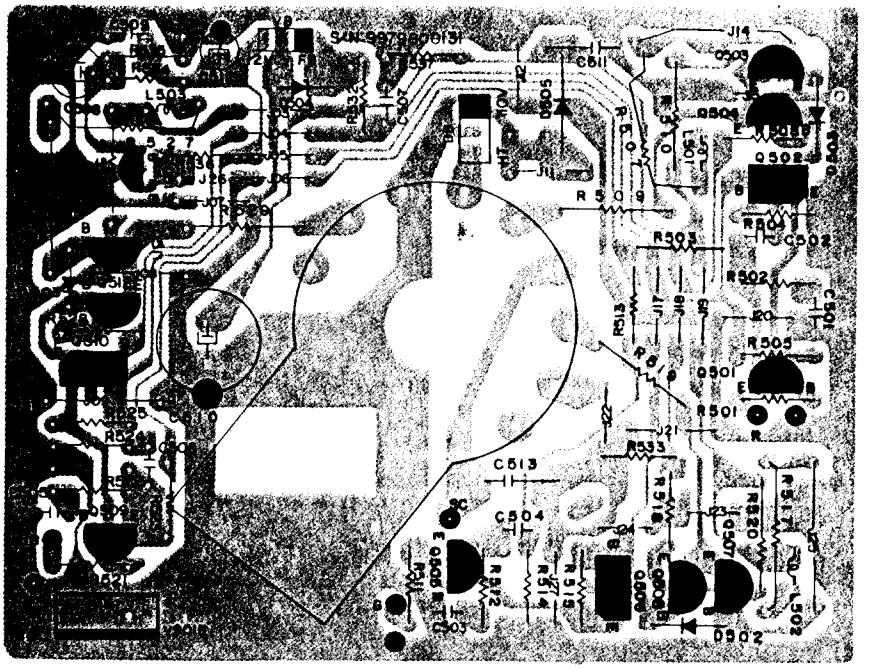


Fig. 19-a Top View

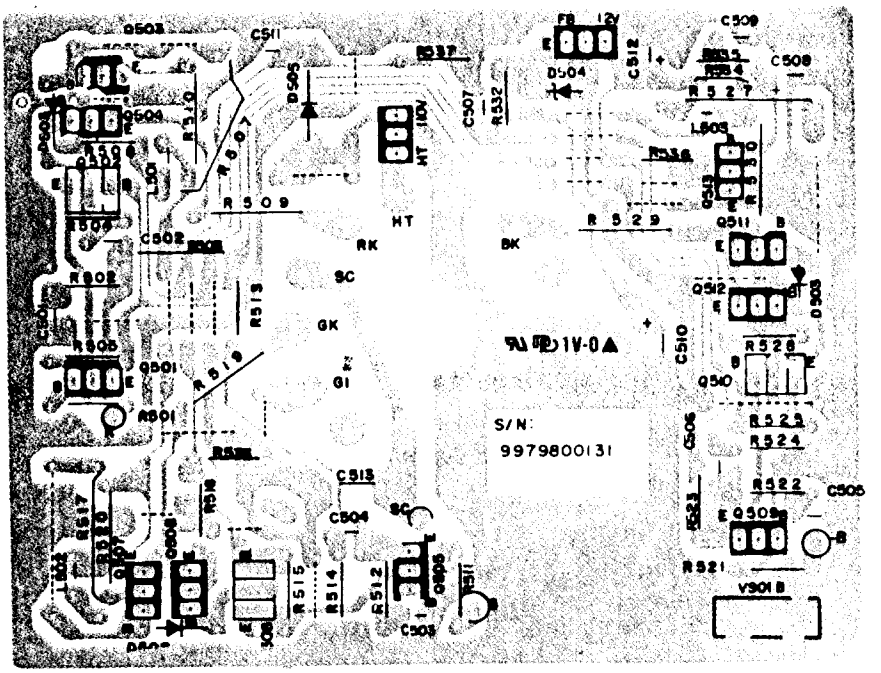


Fig. 19-b Bottom View

PARTS LIST

* Mark : X-RAY RADIATION RELATED PARTS
! Mark : SAFETY RELATED PARTS
@ Mark : CRITICAL PARTS

	Ref. No.	Commodore P/N	Description	Vender Part No.
	1	602215-01A	1084-D Monitor (PAL, VDE)	
	2	602215-01B	1084-D Monitor (PAL, BEAB)	
	3	602215-01C	1084-D Monitor (PAL, BEAB, Aust)	

	Location	Commodore P/N	Description	Vender Part No.
	01	602215-1A	PCB MAIN ASSY A-16-2	9970190011
	A1	602215-01	PCB Main	9979800130
	B1	602215-02	CONN WAFER	4859201420
	BN	602215-03	CONN AS	9970700485
	C1	602215-04	CONN WAFER	4859204920
	CN	602215-05	CONN AS	9970700489
@	C109	602215-06	C ELECTRO 400V 150uF FWS	CEXN2G151T
	C110	602215-07	C ELECTRO 50V 10uF RS	CEXE1H100A
	C111	602215-08	C ELECTRO 50V 1uF RS	CEXE1H109A
	C112	602215-09 602215-10	C CERA 2KV 1000pF K C CERA 2KV 1000pF K	CCXB3D102K CCXB3D102K
	C114	602215-09 602215-10	C CERA 2KV 1000pF K C CERA 2KV 1000pF K	CBXB3D102K CCXB3D102K
	C116	602215-11	C ELECTRO 160V 100uF RS	CEXE2C101A
	C117	602215-11	C ELECTRO 160V 100uF RS	CEXE2C101A
	C118	602215-12	C CERA 2KV 1500pF K	CCXB3D152K
	C119	602215-13	C CERA 500V 680pF K	CCXBEH681K
	C120	602215-14	C ELECTRO 35V 470uF RS	CEXE1V471A
	C121	602215-15	C ELECTRO 35V 100uF RSS	CEXF1V101V
	C124	602215-16	C CERA 500V 4700K	CCXB2H472K
	C125	602215-16	C CERA 500V 4700K	CCXB2H472K
	C126	602215-16	C CERA 500V 4700K	CCXB2H472K
	C127	602215--16	C CERA 500V 4700K	CCXB2H472K
	C202	602215-17	C MYLAR 100V 0.022MF K (ED)	CCXB2H472K
	C203	602215-18	C CERA 500V 390pF K	CCXB2H391K
	C205	602215-19	C MYLAR 200V 0.068uF J (ED)	CMXB2D683J
	C206	602215-20	C CERA 50V 560pF K	CCXB2H561K
*@	C207	602215-21	C MYLAR 1.6KV 3000pF J	CMXH3C302J
*@	C208	602215-22	C MYLAR 1.6KV 4300pF J	CMXH3C432J
	C209	602215-23	C CERA 500V 1000pF K	CCXB2H102K
	C210	602215-23	C CERA 500V 1000pF K	CCXB2H102K
*@	C211	602215-24	C MYLAR 200V 0.39MF J (ED)	CMXB2D394J
	C212	602215-25	C MYLAR 100V 0.22MF J	CMXM2A224J
	C213	602215-26	C MYLAR 100V 0.1MF J	CMXM2A104J

Location	Commodore P/N	Description	Vender Part No.
C214	602215-27	C MYLAR 100V 0.01MF J	CMXM2A103J
C216	602215-28	C MYLAR 100V 4700pF J	CMXM2A472J
C217	602215-29	C ELECTRO 50V 1uF RS	CEXE1H109A
C218	602215-27	C MYLAR 100V 0.01MF J	CMXM2A103J
C219	602215-28	C ELECTRO 50V 4.7uF RS	CEXE1H479A
C220	602215-29	C ELECTRO 25V 1000uF RS	CEXE1E102A
C221	602215-23	C CERA 500V 1000K	CCXB2H102K
C222	602215-30	C ELECTRO 160V 10uF RUF	CEXE2C100A
C226	602215-31	C ELECTRO 50V 10uF RU	CEXE1H100C
C227	602215-23	C CERA 500V 102	CCXB2H102K
C228	602215-32	C CERA 50V 0.1K	CCXB2H104H
C229	602215-33	C ELECTRO 16V 10uF RS	CEXE1C100A
C231	602215-34	C CERA 50V 0.01K	CCXB2H103K
C232	602215-35	C ELECTRO 16V 220uF RS	CEXB1C221A
C233	602215-36	C ELECTRO 16V 47uF RS	CEXE1C470A
C235	602215-37	C ELECTRO 50V 3.3uF RS	CEXE1H339A
C301	602215-26	C MYLAR 100V 0.1MF J	CMXM2A104J
C302	602215-38	C MYLAR 100V 0.22MF J (ED)	CMXB2A224J
C304	602215-26	C MYLAR 100V 0.1MF J	CMXM2A104J
C305	602215-26	C MYLAR 100V 0.1MF J	CMXM2A104J
C306	602215-39	C ELECTRO 25V 47uF RS	CEXE1E470A
C307	602215-40	C ELECTRO 35V 1000uF RS	CEXE1V102A
C308	602215-41	C ELECTRO 35V 100uF RS	CEXE1B101A
C309	602215-42	C ELECTRO 35V 470uF RU	CEXE1V471C
C311	602215-41	C ELECTRO 35V 100uF RS	CEXE1B101A
C312	602215-43	C ELECTRO 16V 100uF RS	CEXE1C101A
C332	602215-33	C ELECTRO 16V 10uF RS	CEXE1C100A
C401	602215-44	C TANTAL 35V 0.22K	CTXD1V228K
C402	602215-44	C TANTAL 35V 0.22K	CTXD1V228K
C403	602215-45	C ELECTRO 16V 470uF RS	CEXE1C471A
C404	602215-46	C CERA 500V 0.01K	CCXB2H103K
C405	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C406	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C406	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C407	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C408	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C409	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C410	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223A
C411	602215-33	C ELECTRO 16V 10uF RS	CEXE1C100A
C412	602215-48	C ELECTRO 16V 4.7uF RS	CEXE1C479A
C413	602215-49	C ELCETRO 16V 1uF SM	CEXE1C109A
C414	602215-50	C ELECTRO 16V 22uF RS	CEXE1C220A
C415	602215-50	C ELECTRO 16V 22uF RS	CEXE1C220A
C416	602215-47	C TANTAL 35V 0.22K	CTXD1V228K
C417	602215-36	C ELECTRO 16V 47uF RS	CEXE1C470A

Location	Commodore P/N	Description	Vender Part No.
C418	602215-51	C MYLAR 100V 0.1MF J	CMXM2A104J
C419	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C420	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223K
C421	602215-52	C ELECTRO 16V 1000uF RS	CEXE1C102A
C422	602215-53	C CERA 50V 0.01 K	CCXB2H103K
C603	602215-53	C CERA 50V 0.01 K	CCXB2H103K
C604	602215-53	C CERA 50V 0.01 K	CCXB2H103K
C605	602215-54	C ELECTRO 16V 220uF RS	CEXE1C221A
C606	602215-47	C MYLAR 100V 0.022MF K	CMXM2A223A
C607	602215-55	C CERA 50V 222K	CCXB2H222K
C608	602215-56	C TANTAL 35V 1MF K	CTXD1V109K
C609	602215-53	C CERA 50V 0.01K	CCXB2H103K
C610	602215-57	C MYLAR, 100V 0.47MF K	CMXM2A473K
C611	602215-58	C TANTAL 35V 0.33uF K	CTXD1V338K
C612	602215-59	C CERA 50V 10pF D	CXCH1H100D
C613	602215-60	C TRIMER TZ03R 200F (4-20)	4850L00300
C614	602215-47	C MYLAR, 100V 0.022MF K	CMXM2A223K
C616	602215-61	C CERA 50V 27pF K	CXCH1H270K
C617	602215-59	C CERA 50V 10pF D	CXCh1H100D
C618	602215-62	C CERA 50V 12pF J	CXCH1H120J
C619	602215-32	C CERA 50V 0.1uF Z	CBXF1H104Z
C620	602215-49	C ELECTRO 16V 1uF SM	CEXE1C109A
C621	602215-33	C ELECTRO 16V 10uF RS	CEXE1C100A
C623	602215-34	C CERA 50V 0.01uF Z	CCXF1H103Z
C624	602215-62	C CERA 50V 0.022uF Z	CCXF1H223Z
C701	602215-32	C CERA 50V 0.1uF Z	CBXF1H104Z
C702	602215-32	C CERA 50V 0.1uF Z	CBXF1H104Z
C703	602215-63	C ELECTRO 16V 470uF RS	CEXE1C471A
C704	602215-34	C CERA 50V 0.01uF Z	CCXF1C103Z
C707	602215-36	C ELECTRO 16V 47uF RS	CEXE1C470A
C708	602215-36	C ELECTRO 16V 47uF RS	CEXE1C470A
C709	602215-36	C ELECTRO 16V 47uF RS	CEXE1C470A
C711	602215-64	C CERA 50V 150K	CCXB1H151K
C712	602215-33	C ELECTRO 16V 10uF RS	CEXE1C100A
C801	602217-86	C ELECTRO 50V 0.1uF SM	CEXE1H108A
C802	602215-41	C ELECTRO 35V 470uF RU	CEXE1V471C
C803	602215-26	C MYLAR, 100V 0.01M J	CMXM2A104J
C805	602215-49	C ELECTRO 16V 1uF SM	CEXE1C109A
C806	602217-87	C CERA 50V 0.47uF Z	CCXF1H473Z
C807	602215-43	C ELECTRO 16V 100uF SM	CEXE1C101A
C808	602217-88	C CERA 50V 220pF K	CCSB1H221K
C809	602215-27	C MYLAR 100V 103J	CMXM2A103J
DY	602215-65	CONN WAFER, YEW500-05	4859240020
DL601	602215-66	COILK DELAY LINE, DL04050S	58Q0000019

	Location	Commodore P/N	Description	Vender Part No.
	DL602	602215-67 602215-68	COIL DELAY LINE, SD-11P1D COIL DELAY LINE, PDL-634K	58Q0000029 58Q443K007
@	D101	602215-69	DIODE BRIDGE, LB156	DLB156----
!@	D102	602215-70	DIODE, RU-2	DRU2-------
		602215-71	DIODE, 1N4936	DIN4936----
	D103	602215-70	DIODE, RU2	DRU2-------
		602215-71	DIODE, 1N4936	DIN4936----
	D202	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
*	D203	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
	D204	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
@	D207	602215-73	DIODE, RH-1B	DRH1B-----
		602215-74	DIODE, BA159	DBA159----
	D208	602215-75	DIODE, S5295G	DS5295G---
	D211	602215-75	DIODE, S5295G	DS5295G---
*	D213	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
*	D214	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
*	D215	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
*	D216	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
	D219	602215-76	DIODE, ZENER, ZPD5.1	DZPD5R1B--
	D301	602215-72	DIODE, 1N4148 (AUTO)	D1N4148----
	D302	602215-73	DIODE, RH-1B	DRH1B-----
		602215-74	DIODE, BA159	DBA159----
	D303	602215-72	DIODE, 1N4148	D1N4148---
	D401	602215-72	DIODE, 1N4148	D1N4148---
	D402	602215-72	DIODE, 1N4148	D1N4148---
	D403	602215-72	DIODE, 1N4148	D1N4148---
	D701	602215-72	DIODE, 1N4148	D1N4148---
	D702	602215-72	DIODE, 1N4148	D1N4148---
	D703	602215-72	DIODE, 1N4148	D1N4148---
	D704	602215-72	DIODE, 1N4148	D1N4148---
	D705	602215-72	DIODE, 1N4148	D1N4148---
	D706	602215-72	DIODE, 1N4148	D1N4148---
	D707	602215-72	DIODE, 1N4148	D1N4148---
	D707	602215-72	DIODE, 1N4148	D1N4148---
	D712	602215-72	DIODE, 1N4148	D1N4148---
	D714	602215-72	DIODE, 1N4148	D1N4148---
	F1	602215-77	CONN WAFER	4859232620
	FN	602215-78	CONN AS	9970700488
	G1	602215-77	CONN WAFER	4859232420
	GN	602215-78	CONN AS	9970700484
!*@	I101	602215-79	IC, STK73410 II	1STK734102
	I101A	602215-80	HEAT SINK	9977012402
	I101B	602215-81	SCREW TAPPING	7128301411
	I101C	602215-82	SCREW TAPPING	7128301211

	Location	Commodore P/N	Description	Vender Part No.
	Q203	602216-16	TR, KTC1815-Y (AUTO)	TZTC1815Y-
	Q601	602216-16	TR, KTC1815-Y (AUTO)	TZTC1815Y-
	Q602	602216-16	TR, KTC1815-Y (AUTO)	TZTC1815Y-
	Q604	602216-16	TR, KTC1815-Y (AUTO)	TZTC1815Y-
	Q605	602216-16	TR, KTC1815-Y (AUTO)	TZTC1815Y-
	Q606	602216-16	TR, KTC1815-Y (AUTO)	TZTC1815Y-
	Q701	602216-17	TR, KTC1959-Y (AUTO)	TZTC1959Y-
	Q702	602216-17	TR, KTC1959-Y (AUTO)	TZTC1959Y-
	Q703	602216-17	TR, KTC1959-Y (AUTO)	TZTC1959Y-
@	Q704	602216-18	TR, 2SC3337-Y	T2SC3337--
	R103	602216-19	R CARBON FILM, 1/2 2.2M OHM J	RD-2Z225J-
	R105	602216-20	R CARBON FILM, 1/4 150K OHM J	RD-4Z154J-
!@	R106	602216-21	R M-OXIDE FILM, 2W 1 OHM J	RS02Y109J-
!@	R107	602216-22	R M-OXIDE FILM, 2W 33 OHM J	RS052Y330J-
	R108	602216-23	R CARBON FILM, 1/2 47 OHM J	RD-2Z470J-
@	R109	602216-24	R M-OXIDE, 2W 68 OHM J	RS02Y680J-
	R110	602216-25	R CARBON, 1/2 100K OHM J	RD-2Z104J-
	R111	602216-25	R CARBON, 1/2 100K OHM J	RD-2Z104J-
	R113	602216-26	R FUSIBLE, 1W 1 OHM J	FR01Y109J-
!@	R114	602216-27	R M-OXIDE FILM, 2W 33 OHM J	RS02Y330J-
	R116	602216-28	R CARBON FILM, 1/4 150 OHM J	RD-4Z151J-
	R202	602216-29	R CARBON FILM, 1/4 43K OHM J	RD-4Z433J-
	R203	602216-30	VR ROTARY, 10KB	5V1103015B
	R204	602216-31	R CARBON FILM, 1/4 2.7K OHM J	RD-4Z272J-
	R205	602216-32	R CARBON 1/4 12K OHM J	RD-4Z123J-
	R206	602216-33	R CARBON1/4 2.2K OHM J	RD-4Z222J-
	R207	602216-34	R CARBON 1/4 330 OHM J	RD-4Z331J-
	R209	602216-35	R CARBON, 1/4 4.7 OHM J	RD-4Z472J-
@	R210	602216-36	R M-OXIDE, 2W 1.2K OHM J	RS02Y122J-
@	R211	602216-36	R M-OXIDE, 2W 1.2K OHM J	RS02Y122J-
	R212	602216-37	R M-OXIDE, 1W 2.2 OHM J	RS01Y229J-
	R213	602216-34	R CARBON 1/4 330 OHM J	RD-4Z331J-
	R214	602216-34	R CARBON 1/4 330 OHM J	RD-4Z331J-
*	R217	602216-38	R CARBON 1/4 5.6K OHM G	RD-4Z562G-
*	R218	602216-39	R CARBON 1/4 10K OHM G	RD-4Z103G-
!	R219	602216-40	R CARBON 1/2 180K OHM J	RD-2Z184J-
	R220	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
	R221	602216-42	R CARBON 1/4 270 OHM J	RD-4Z271J-
	R222	602216-43	R CARBON 1/4 15K OHM J	RD-4Z153J-
	R224	602216-44	R CARBON 1/4 120K OHM J	RD-4Z124J-
	R225	602216-45	R SEMI FIXED, 95A, 50K OHM	RV6317503A
	R226	602216-32	R CARBON 1/4 12K OHM J	RD-4Z123J-
!@	R227	602216-46	R M-OXIDE 3W 2.4K OHM J	RS03Y242J-
!@	R228	602216-47	R M-OXIDE 3W 1.8K OHM J	RS03Y182J-

	Location	Commodore P/N	Description	Vender Part No.
	R229	602216-48	R CARBON 1/4 100K OHM J	RD-4Z104J-
	R230	602216-49	R CARBON 1/4 4.7K OHM J	RD-4Z472J-
	R231	602216-50	R CARBON 1/4 820 OHM J	RD-4Z821J-
	R232	602216-51	R CARBON 1/4 680 OHM J	RD-4Z681J-
	R233	602216-26	R FUSIBLE 1W 1 OHM J	RF01Y109J-
	R234	602216-26	R FUSIBLE 1W 1 OHM J	RF01Y109J-
	R235	602216-53	R CARBON 1/4 270 OHM J	RD-4Z271J-
	R237	602216-54	R M-OXIDE 1W 1 OHM J	RS01Y109J-
*	R238	602260-55	R CARBON 1/4 10 OHM J	RD-4Z100J-
	R239	602216-56	R FUSIBLE 1W 0.33 OHM J	RF01Y338J-
	R242	602216-34	R CARBON1/4 330 OHM J	RD-4Z331J-
	R244	602216-57	R CARBON 1/4 470 OHM J	RD-4471J-
	R245	602216-57	R CARBOB 1/4 470 OHM J	RD-4471J-
	R246	602216-33	R CARBON 1/4 220 OHM J	RD-4Z221J-
	R247	602216-58	R CARBON 1/4 36K OHM J	RD-4Z363J-
	R249	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
	R250	602216-35	R CARBON 1/4 4.7K OHM J	RD-4Z472J-
	R251	602216-59	R CARBON 1/4 560 OHM J	RD-4Z561J-
	R252	602216-59	R CARBON 1/4 560 OHM J	RD-4Z561J-
	R253	602216-35	R CARBON 1/4 4.7K OHM J	RD-4Z472J-
	R255	602216-58	R CARBON 1/4 36K OHM J	RD-4Z363J-
	R301	602216-60	R CARBON 1/4 2.2 OHM J	RD-4Z229J-
	R302	602216-30	VR ROTARY, 10KB	5V1103015B
	R303	602216-35	R CARBON 1/4 4.7K OHM J	RD-4Z472J-
	R304	602216-61	R CARBON 1/6 5.1K OHM J	RD-4Z512J-
	R305	602216-48	R CARBON 1/4 100K OHM J	RD-4Z104J-
	R306	602216-62	R SEMIFIXED, A100K OHM (117A)	RV611704A
	R307	602216-63	R CARBON 1/4 680K OHM J	RD-4Z684J-
	R308	602216-64	R CARBON 1/4 51K OHM J	RD-4Z513J-
	R309	602216-65	R CARBON 1/4 47K OHM J	RD-4Z473J-
	R310	602216-66	R CARBON 1/2 2.2 OHM J	RD-2Z229J-
	R311	602216-67	R CARBON 1/4 910 OHM J	RD-4Z911J-
	R312	602216-68	R CARBON 1/6 120 OHM J	RD-AZ121J-
	R313	602216-69	R CARBON 1/4 2.4K OHM J	RD-4Z242J-
	R314	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
	R315	602216-70	R CARBON 1/4 75K OHM J	RD-4Z753J-
	R316	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
	R317	602216-34	R CARBON 1/4 330 OHM J	RD-4Z331J-
	R318	602216-71	R SEMI FIXED, 117A B1K OHM	RV6117102A
	R319	602216-72	R CARBON 1/2 330 OHM J	RD-2Z331J-
	R320	602216-73	R CARBON 1W 150 OHM J	RS01Y151J-
	R323	602216-74	R CARBON 1/4 100 OHM J	RD-4Z101J-
	R328	602216-75	R M-OXIDE 1W 430 OHM J	RD-AZ512J-
	R330	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-

Location	Commodore P/N	Description	Vender Part No.
R401	602216-76	R CARBON 1/4 68 OHM J	RD-4Z680J-
R402	602216-76	R CARBON 1/4 68 OHM J	RD-4Z680J-
R403	602216-76	R CARBON 1/4 68 OHM J	RD-4Z680J-
R404	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R405	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R406	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R407	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R408	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
R409	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R410	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R411	602216-78	R CARBON 1/4 47K OHM J	RD-4Z473J-
R412	602216-79	R SEMI FIXED, 117A B10K	RV6117103A
R413	602216-79	R SEMI FIXED, 117A B10K	RV6117103A
R414	602216-79	R SEMI FIXED, 117A B10K	RV6117103A
R415	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
R417	602216-80	R CARBON 1/4 10K OHM J	RD-4Z103J-
R418	602216-81	R CARBON 1/4 8.2K OHM J	RD-4Z822J-
R419	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
R420	602216-82	VR ROTARY, B10K OHM (C.C)	RV1103014B
R421	602216-82	VR ROTARY, B10K OHM (C.C)	RV1103014B
R422	602216-82	VR ROTARY, B10K OHM (C.C)	RV1103014B
R423	602216-83	R CARBON 1/2 39K OHM J	RD-2Z393J-
R424	602216-84	R CARBON 1/4 82K OHM J	RD-4Z823J-
R425	602216-85	R CARBON 1/4 5.6K OHM J	RD-4Z562J-
R426	602216-65	R CARBON 1/4 47K OHM J	RD-4Z473J-
R427	602216-43	R CARBON 1/4 15K OHM J	RD-4Z153J-
R428	602216-35	R CARBON 1/4 4.7K OHM J	RD-4Z472J-
R429	602216-86	R CARBON 1/4 3.9K OHM J	RD-4Z392J-
R430	602216-32	R CARBON 1/4 12K OHM J	RD-4Z123J-
R431	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
R432	602216-31	R CARBON 1/4 2.7K OHM J	RD-4Z272J-
R433	602216-81	R CARBON 1/4 8.2K OHM J	RD-4Z822J-
R434	602216-87	R CARBON 1/4 3.9K OHM J	RD-4Z392J-
R601	602216-44	R CARBON 1/4 120K OHM J	RD-4Z124J-
R602	602216-88	R SEMI-FIXED 200 OHM J	RV6317201A
R603	602216-89	R CARBON 1/4 180 OHM J	RD-4Z181J-
R604	602216-90	R CARBON 1/4 390 OHM J	RD-4Z391J-
R605	602216-91	R CARBON 1/4 1.2K OHM J	RD-4Z122J-
R606	602216-31	R CARBON 1/4 2.7K OHM J	RD-4Z272J-
R611	602216-92	R CARBON 1/4 5.1K OHM J	RD-4Z512J-
R612	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
R613	602216-57	R CARBON 1/4 470 OHM J	RD-4Z471J-
R614	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R617	602216-50	R CARBON 1/4 820 OHM J	RD-4Z821J-
R618	602216-57	R CARBON 1/4 470 OHM J	RD-4Z471J-

Location	Commodore P/N	Description	Vender Part No.
R619	602216-48	R CARBON 1/4 100K OHM J	RD-4Z104J-
R620	602216-41	R CARBON 1/4 10K OHM J	RD-4Z103J-
R621	602216-77	R CARBON 1/4 1K OHM J	RD-4Z102J-
R622	602216-86	R CARBON 1/4 3.9KΩ J	RD-4Z392J-
R623	602216-74	R CARBON, 1/4 100Ω J	RD-4Z101J-
R624	602216-50	R CARBON, 1/4 820Ω J	RD-4Z821J-
R625	602216-44	R CARBON, 1/4 120KΩ J	RD-4Z124J-
R626	602216-32	R CARBON, 1/4 12KΩ J	RD-4Z123J-
R627	602216-32	R CARBON, 1/4 12KΩ J	RD-4Z123J-
R628	602216-44	R CARBON, 1/4 120KΩ J	RD-4Z124J-
R629	602216-32	R CARBON, 1/4 12KΩ J	RD-4Z123J-
R630	602216-44	R CARBON, 1/4 120KΩ J	RD-4Z124J-
R631	602216-74	R CARBON, 1/4 100Ω J	RD-4Z101J-
R632	602216-93	R CARBON, 1/6 27KΩ J	RD-AZ273J-
R633	602216-35	R CARBON, 1/6 4.7KΩ J	RD-4Z472J-
R634	602216-94	R CARBON, 1/4 27KΩ J	RD-4Z273J-
R635	602216-35	R CARBON, 1/4 4.7KΩ J	RD-4Z472J-
R638	602216-77	R CARBON, 1/4 1KΩ J	RD-4Z102J-
R639	602216-77	R CARBON, 1/4 1KΩ J	RD-4Z102J-
R640	602216-77	R CARBON, 1/4 1KΩ J	RD-4Z102J-
R641	602216-95	R CARBON, 1/4 75Ω J	RD-4Z750J-
R642	602216-95	R CARBON, 1/4 75Ω J	RD-4Z750J-
R644	602216-33	R CARBON, 1/4 220Ω J	RD-4Z221J-
R645	602216-41	R CARBON, 1/4 10KΩ J	RD-AZ103J-
R646	602216-80	R CARBON, 1/4 10KΩ J	RD-AZ103J-
R648	602216-57	R CARBON, 1/4 470Ω J	RD-AZ471J-
R649	602216-96	R CARBON, 1/4 1.5KΩ J	RD-AZ152J-
R701	602216-34	R CARBON, 1/4 330Ω J	RD-AZ331J-
R702	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R703	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R704	602216-57	R CARBON, 1/4 470Ω J	RD-4Z471J-
R705	602216-57	R CARBON, 1/4 470Ω J	RD-4Z471J-
R706	602216-57	R CARBON, 1/4 470Ω J	RD-4Z471J-
R707	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R708	602216-57	R CARBON, 1/4 470Ω J	RD-4Z471J-
R709	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R710	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R711	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R712	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R713	602216-34	R CARBON, 1/4 330Ω J	RD-4Z331J-
R714	602216-97	R CARBON, 1/4 200Ω J	RD-4Z201J-
R715	602216-97	R CARBON, 1/4 200Ω J	RD-4Z201J-
R716	602216-97	R CARBON, 1/4 200Ω J	RD-4Z201J-
R717	602216-74	R CARBON, 1/4 100Ω J	RD-4Z101J-

	Location	Commodore P/N	Description	Vender Part No.
	R718	602216-98	R CARBON, 1/4 82Ω J	RD-4Z820J-
	R719	602216-51	R CARBON, 1/4 680Ω J	RD-4Z681J-
	R720	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R721	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R722	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R723	602216-89	R CARBON, 1/4 180Ω J	RD-4Z181J-
	R724	602216-89	R CARBON, 1/4 180Ω J	RD-4Z181J-
	R725	602216-89	R CARBON, 1/4 180Ω J	RD-4Z181J-
	R726	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R727	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R728	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R729	602216-77	R CARBON, 1/4 1KΩ J	RD-4Z102J-
	R730	602216-77	R CARBON, 1/4 1KΩ J	RD-4Z102J-
	R731	602216-77	R CARBON, 1/4 1KΩ J	RD-4Z102J-
	R735	602216-28	R CARBON, 1/4 150Ω J	RD-4Z151J-
	R736	602216-28	R CARBON, 1/4 150Ω J	RD-4Z151J-
	R737	602216-28	R CARBON, 1/4 150Ω J	RD-4Z151J-
	R738	602217-01	R CARBON, 1/4 820Ω J	RD-4Z821J-
	R739	602217-01	R CARBON, 1/4 820Ω J	RD-4Z821J-
	R740	602217-01	R CARBON, 1/4 820Ω J	RD-4Z821J-
	R741	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R742	602216-99	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R743	602216-99	R CARBON, 1/4 430ΩJ	RD-4Z431J-
	R744	602217-03	R CEMENT, 5W 30 OHM J	RX05B300JE
	R745	602217-30	R CARBON, 1/4 430Ω J	RD-4Z431J-
	R801	602216-78	R CARBON, 1/4 47KΩ J	RD-4Z472J-
	R802	602217-90	R CARBON, 1/4 3.3Ω J	RD-4Z339J-
	R803	602217-91	R CARBON, 1/4 220KΩ J	RD-4Z224J-
	R805	602217-77	R CARBON, 1/4 1KΩJ	RD-4Z102J-
	R806	602216-30	VR ROTARY, 10KB	5V1103015B
	R807	602216-31	R CARBON, 1/4 2.7KΩ J	RD-4Z272J-
	R808	602216-41	R CARBON, 1/4 10KΩ J	RD-4Z103J-
	R809	602217-92	R CARBON, 1/4 6.2KΩ J	RD-4Z622J-
	SW601	602217-04	SW SLIDE KSA-2317	5S30306002
	SW701	602217-05	SW SLIDE KSA-4251	5S30402525
	TA1	602217-06	CONN TERN AC-R9-501P	9979200059
!*@	T121	602217-07	SMPS, TSW4210	5RM0000009
	T201	602217-08	TRANS H DRIVE, THD-122	5DRD000001
!*@	T202	602217-09	FBT, MSHIFCT81	5RH0000023
	X601	602217-21	CRYSTAL 8.867238MHZ	5PPHC18U--
	0001	602217-22	SOLDER BAR	2193100800
	0002	602217-23	SOLDER WIRE	2193010700
	0003	602217-24 602217-25	BOND BOND	2224050703 2224050700
	0004	602217-26	HOT MELT	2224050002

Location	Commodore P/N	Description	Vender Part No.
013	602218-14	LOGO FRONT	9975411400
015	602218-15	INDICATOR POWER	9975710100
016	602218-16	LEG FRONT	9972711600
019	602218-17	CABINET JOINTOR	9972210001
07	602215-1G	COVER BACK AS	9971411901
001	602218-19	COVER BACK	9972111401
003	602218-20	HOLDER SPEAKER	9972911201
004	602218-21	FIXER SPEAKER	9972911601
005	602218-22	PLATE SPEC	9975411201
	602218-23	PLATE SPEC	9975411202
007	602218-24	TILT JOINER R	9972911301
008	602218-25	TILT JOINER L	9972911401
010	602218-26	TILT R	9972911701
011	602218-27	TILT L	9972911801
012	602218-28	LEG REAR	9972711700
08	602215-1H	PACKING AS	9971713601
001	602218-29	CUSHION TOP L	9978117100
002	602218-30	CUSHION BOTTOM L	9978117200
004	602218-31	POLY BAG	9978211800
006	602218-32	BOX CARTON	9975815701
007	602218-33	LABEL SERIAL NO	9975815704
	602218-34	LABEL SERIAL NO	9975815705
09	602218-11	PCB EARPHONE AS	99701900008
EA01	602218-35	JACK EARPOHNE HCY-352W	9976300009
EA02	602218-36	WASHER PHONE JACK	9976211100
SP01	602217-96	SPEAKER P-300R 16 OHM	4858302221
S32	602218-38	CONN WAFER	4859232320
S32N	602218-38	CONN AS	9970700493
S33	602216-77	R CARBON, 1/4 1KΩ J	RD-4Z102J
10	602215-1J	ACCESSORY AS	9971890019
01	602218-39	CABLE SIGNAL AS (9P TO 9P)	9970700347
02	602218-40	CABLE SIGNAL AS (23P TO 9P)	9970700348
03	602218-41	CABLE SIGNAL AS (2P TO 2P)	9970700474
04	602218-42	CABLE SIGNAL AS (3P TO 8P)	9970700350
05	602218-43	MANUAL OWNERS 363139-01	9978600068
06	602218-44	CARD WARRANTY 318884-01 (ONLY AUST.)	9978500049

	Location	Commodore P/N	Description	Vender Part No.
	0005	602217-27	FLUX SOLDER	2291050610
	0006	602217-28	LOCK PAINT	UGC11C1016
	0007	602217-29	GREASE SILICON	2291130202
	0008	602217-30	SOLVENT	2291050303
	01	602217-31	SHIELD PLATE A	9977216700
	02	602217-32	SHIELD CASE A	9977216800
	02	602215-1B	PCB CRT AS	9970190012
	C501	602217-33	C CERA 50V 100pF K	CCXB1H101K
	C502	602217-34	C CERA 50V 180pF K	CCXD1H181K
	C503	602217-34	C CERA 50V 100pF K	CCXB1H101K
	C504	602217-33	C CERA 50V 180pF K	CCXD1H181K
	C505	602217-33	C CERA 50V 100pF K	CCXB1H101K
	C506	602217-34	C CERA 50V 180pF K	CCXD1H181K
	C507	602217-35	C CERA 50V 68pF K	CCXF1H680K
	C508	602215-54	C ELECTRO 16V 220uF RS	CEXE1C479A
	C509	602215-53	C CERA 50V 0.01K	CCXB1H103K
	C510	602217-36	C ELECTRO 160V 47uF RS	CEXE2C470A
	C511	602217-37	C CERA 500V 0.01F Z	CCXB2H103K
	C512	602215-36	C ELECTRO 16V 47uF RS	CEXE1C470A
	C513	602217-38	C CERA 1KV 0.01F Z	CCXF3A103Z
	D501	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
	D502	602215-72	DIODE, 1N4148 (AUTO)	DZN4148---
	D503	602215-72	DIODE, 1N4148 (AUTO)	D1N4148---
	D504	602217-39	ZENER DIODE, ZPD12	DZPD12---
	D505	602215-73	DIODE, RH-1B	DRH1B-----
		602215-74	DIODE, BA159	DBA159----
	L501	602217-40	COIL PEAKING, PL-22J (22UH)	58P220J039
	L502	602217-40	COIL PEAKING, PL-22J (22UH)	58P220J039
	L503	602217-40	COIL PEAKING, PL-22J (22UH)	58P220J039
	Q501	602216-17	TR, KTC1959-Y (AUTO)	TZTC1959Y-
@	Q502	602217-41	TR, KTC2068	TKTC2068--
	Q503	602217-42	TR, KTC2229-Y (AUTO)	TKTC2229--
		602217-43	TR, BF422 (AUTO)	TBF422----
		602216-11	TR, KTC2482 (AUTO)	TKTC2482--
	Q504	602217-44	TR, KTA949-Y	TZTA949Y--
		602217-45	TR, BF423 (AUTO)	TBF423----
	Q505	602216-17	TR, KTC1959-Y (AUTO)	TZTC1959Y-
!*@	Q506	602217-41	TR, KTC2068	TKTC2068--
	Q507	602217-42	TR, KTC2229-Y (AUTO)	TKTC2229--
		602217-43	TR, BF422 (AUTO)	TBF422----
		602216-11	TR, KTC2482 (AUTO)	TKTC2482--
	Q508	602217-44	TR, KTA949-Y	TZTA949Y--
		602217-45	TR, BF423 (AUTO)	TBF423----
	Q509	602216-17	TR, KTC1959-Y (AUTO)	TZTC1959Y-

	Location	Commodore P/N	Description	Vender Part No.
@	Q510	602217-41	TR, KTC2068	TKTC2068--
	Q511	602217-42	TR, KTC2229-Y (AUTO)	TKTC2229--
		602217-43	TR, BF422 (AUTO)	TBF422----
		602216-11	TR, KTC2482 (AUTO)	TKTC2482--
	Q512	602217-44	TR, KTA949-Y	TZTA949Y--
		602217-45	TR, BF423 (AUTO)	TBF423----
	Q513	602217-46	TR, KTA1015-Y (AUTO)	TZTC1015Y-
	R501	602217-47	R CARBON 1/4 56 OHM J	RD-4Z560J-
	R502	602217-48	R CARBON 1/4 39 OHM J	RD-4Z390J-
	R503	602216-28	R CARBON 1/4 2.7K OHM J	RD-4Z272J-
	R504	602216-76	R CARBON 1/4 68 OHM J	RD-4Z680J
@	R507	602217-49	R M-OXIDE 2W 3.6K OHM J	RS02Y362J-
	R508	602216-74	R CARBON 1/4 100 OHM J	RD-4Z101J-
	R509	602217-50	R CARBON 1/2 470 OHM J	RD-2Z471J-
	R510	602217-51	R CARBON 1/2 680 OHM J	RD-2Z681J-
	R511	602217-47	R CARBON 1/4 56 OHM J	RD-4Z560J-
	R512	602217-48	R CARBON 1/4 39 OHM J	RD-4Z390J-
	R513	602216-28	R CARBON 1/4 2.7K OHM J	RD-4Z272J-
	R514	602216-76	R CARBON 1/4 68 OHM J	RD-4Z680J-
@	R517	602217-49	R M-OXIDE 2W 3.6K OHM J	RS02Y362J-
	R518	602216-74	R CARBON 1/4 100 OHM J	RD-4Z101J-
	R519	602217-50	R CARBON 1/2 470 OHM J	RD-2Z471J-
	R520	602217-51	R CARBON 1/2 680 OHM J	RD-2Z681J-
	R521	602217-47	R CARBON 1/4 56 OHM J	RD-4Z560J-
	R522	602217-48	R CARBON 1/4 39 OHM J	RD-4Z390J-
	R523	602216-28	R CARBON 1/4 2.7K OHM J	RD-4Z272J-
	R524	602216-76	R CARBON 1/4 68 OHM J	RD-4Z680J-
@	R527	602217-49	R M-OXIDE 2W 3.6K OHM J	RS02Y362J-
	R528	602216-74	R CARBON 1/4 100 OHM J	RD-4Z101J-
	R529	602217-50	R CARBON 1/2 470 OHM J	RD-2Z471J-
	R530	602217-51	R CARBON 1/2 680 OHM J	RD-2Z681J-
	R532	602216-51	R CARBON 1/4 680 OHM J	RD-4Z681J-
	R534	602216-96	R CARBON 1/4 1.5K OHM J	RD-4Z152J-
	R535	602216-59	R CARBON 1/4 560 OHM J	RD-2Z561J-
	R536	602216-51	R CARBON 1/4 680 OHM J	RD-4Z681J-
	R537	602217-52	R CARBON 1/4 240K OHM J	RD-4Z244J-
	UA03	602217-53	PCB CRT	9979800131
	VB1	602217-54	CONN AS	9970700489
	V501	602217-55	SOCKET CRT S008626	9976300007
!*@	V901	602217-56	E2940B22-TC10ETHT (M1T1G8)	9979600041
		602217-57	M34JBK00X12	9979600042
		602217-58	M34JRW30X04	9979600053
		602217-59	E2940B22-TC10ETHT (M1T1G8) R	9979600073
		602217-60	M34JBKOOX12R	9979600074
		602217-61	M34JRW30X04R	9979600075

	Location	Commodore P/N	Description	Vender Part No.
!*@	I201	602215-83	IC, TDA2595	1TDA2595--
	I202	602215-84	IC, HD74LS86	174LS86---
@	I301	602215-85	IC, TDA1670A	1TDA1670A-
	I301A	602215-86	HEAT SINK	9977012302
	I301B	602215-87	SCREW TAPPING	7121301011
	I301C	602215-88	SCREW TAPPING	7121300811
	I401	602215-89	IC, TDA3507	1TDA3507--
! @	I402	602215-90	REGULATOR, KTA7812	1KTA7812--
		602215-91	REGULATOR, GL7812	1GL7812---
	I402A	602215-92	HEAT SINK	4857013300
	I402B	602215-88	SCREW TAPPING	7121300811
	I403	602215-93	REGULATOR, KTA7805	1KTA7805--
	I402A	602215-92	HEAT SINK	4857013300
	I402B	602215-94	SCREW TAPPING	7121300611
	I601	602215-95	IC, TDA4510	1TDA4510
	I602	602215-96	IC, UPD4066BC	1UPD4066BC
	I701	602215-97	IC TTL, SN7406	1SN7406---
	I702	602215-97	IC TTL, SN7406	1SN7406---
	I801	602216-77	IC, TDA1670A	1TDA1670A-
	L103	602215-98	COIL CHOKE, HC-101	5MC0000004
	L104	602215-99	COIL CHOKE, HC-4035	58C0000026
	L105	602215-99	COIL CHOKE, HC-4035	58C0000026
	L106	602215-98	COIL CHOKE, CH-101	5MC0000004
	L107	602216-01	COIL CHOKE L-82	5MC000003
	L108	602216-02	COIL CHOKE, CH-121	5RM0000019
	L109	602215-99	COIL CHOKE, HC-4035	58C0000026
*@	L201	602216-03	COIL WIDTH, TRW-141T	4MW0000025
*@	L202	602216-04	COIL LINERITY, TRL-414M	58H0000005
	L207	602216-05	COIL CHOKE, CH-108	5MC0000023
*	L301	602216-06	TRANS SPC, TPC-146	5RC0000005
	L601	602216-07	COIL PEAKING, PL-6.8 uH	58P689J023
	L602	602216-08	COIL FILTER, TRF-507S	58F1000021
	L603	602216-09	COIL PEAKING, PL-33J (33UH)	58P330J045
	L604	602216-09	COIL PEAKING, PL-33J (33UH)	58P330J045
	L701	602215-99	COIL CHOKE, HC-4036	58C0000026
	L702	602215-99	COIL CHOKE, HC-4036	58C0000026
	L703	602215-99	COIL CHOKE, HC-4035	58C0000026
	L704	602215-99	COIL CHOKE, HC-4035	58C0000026
	NN	602216-10	CONN AS	9970700491
@	Q201	602216-11	TR, KTC2482	TKTC2482--
*@	Q202	602216-12	TR, 2SD1397 (WITH MICA)	T2SD1397--
	Q202A	602216-13	HEAT SINK	4857018600
	Q202B	602215-94	SCREW TAPPING	7128300611
	Q202C	602216-14	LUG RING	4857416300

	Location	Commodore P/N	Description	Vender Part No.
	V901A	602217-62	GROUND CRT AS	9970700319
	V901B	602217-63	CONN WAFER	4859202420
	03	602215-1C	PCB POWER AS	9970190013
! @	C101	602217-64	C LINE ACROSS AC250V 0.22MF M	CLYL2E224M
! @	C103	602217-65	C LINE ACROSS VA1-KC 3300 pF M	CCYB3G332M
! @	C104	602217-65	C LINE ACROSS VA1-KC 3300 pF M	CCYB3G332M
	D11	602217-66	COIL DEGAUSSING JD-6085	5MG0000006
!	F101	602217-67	FUSE, 4A 240V TL	5FSGB4022L
	F101B	602217-68	CLIP FUSE	4857415000
	G1	602217-69	CONN AS	9970700492
	LN	602217-70	CONN AS	9970700487
	L1	602217-71	CONN WAFER	4859203120
	L101	602217-72	FILTER LINE, LF-39	5PTLF122--
	PR	602217-73	RECEPTACLE NC-174D	9976300002
	PR01	602217-74	POSISTOR, 18 OHM	DERPZ25180A
	PS	602217-75	CORD AC	9979900020
		602217-76	CORD AC (ONLY AUST.)	9979900026
		602217-77	CORD AC (ONLY ENG.)	9979900027
		602217-78	CORD AC (ONLY ENG.)	9979900029
	P1	602217-79	CONN AS	9970700490
	PR01	602217-74	POSISTOR, 18 OHM	DEPRZ5180A
	R101	602217-75	R CARBON FILM, 1/2 2.2M	RD-2Z225J-
	R102	602217-76	R CEMENT 10W 3.3 OHM BENCH	RX10B339JE
	S1	602217-77	CONN WAFER	4859202420
	S2	602217-77	CONN WAFER	4859202420
	UA02	602217-78	PCB POWER	9979800132
	04	602217-1D	PCB LED AS	9970190014
	D901	602217-83	LED KLR114E (RED)	DKLR114E--
	D901A	602217-84	CONN AS	9970700491
	UA04	602217-85	PCB LED	9979800183
	06	602215-1F	MASK FRONT AS	9971011601
	SW	602218-03	SW PUSH 70060-086	5S40402137
	SW1	602218-04	CONN AS	9970700486
	SW2	602218-04	CONN AS	9970700486
	001	602218-05	MASK FRONT	9972011501
	002	602218-06	RUBBER WASHER	4856210700
	003	602218-07	WASHER CRT FIX	4856213200
	005	602218-08	DOOR	9972810401
	006	602218-09	KNOB VR	9974210501
	007	602218-10	KNOB MODE	9974901501
	008	602218-11	KNOB POWER	9974810401
	009	602218-12	SPRING	9976710500
	010	602218-13	BRACKET POWER SW	9973210800

4. EARPHONE P.C. BOARD

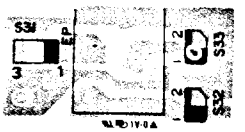


Fig. 21 Top View

5. LED P.C. BOARD

Fig. 22 Top View

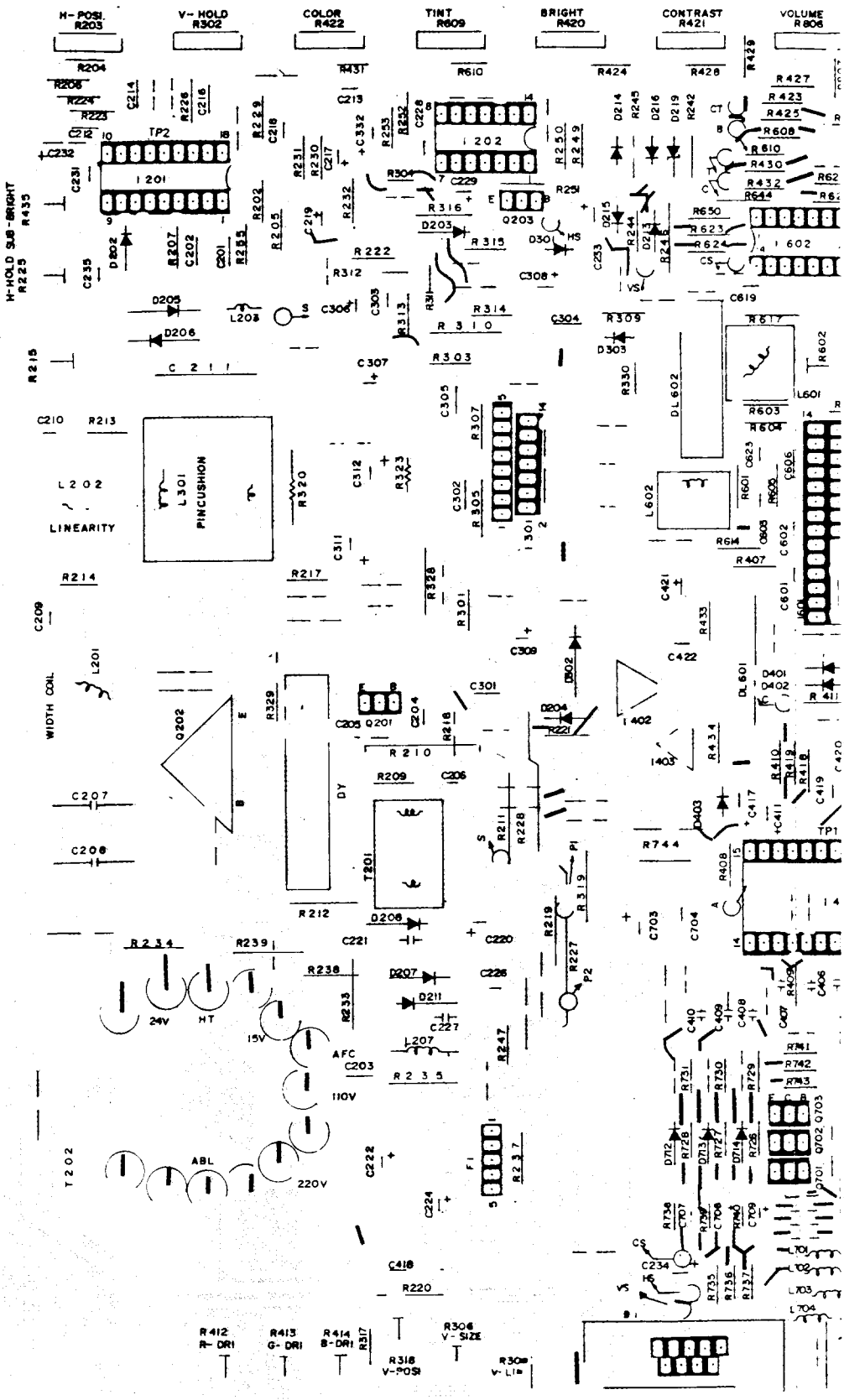


Fig. 23-b Bottom View

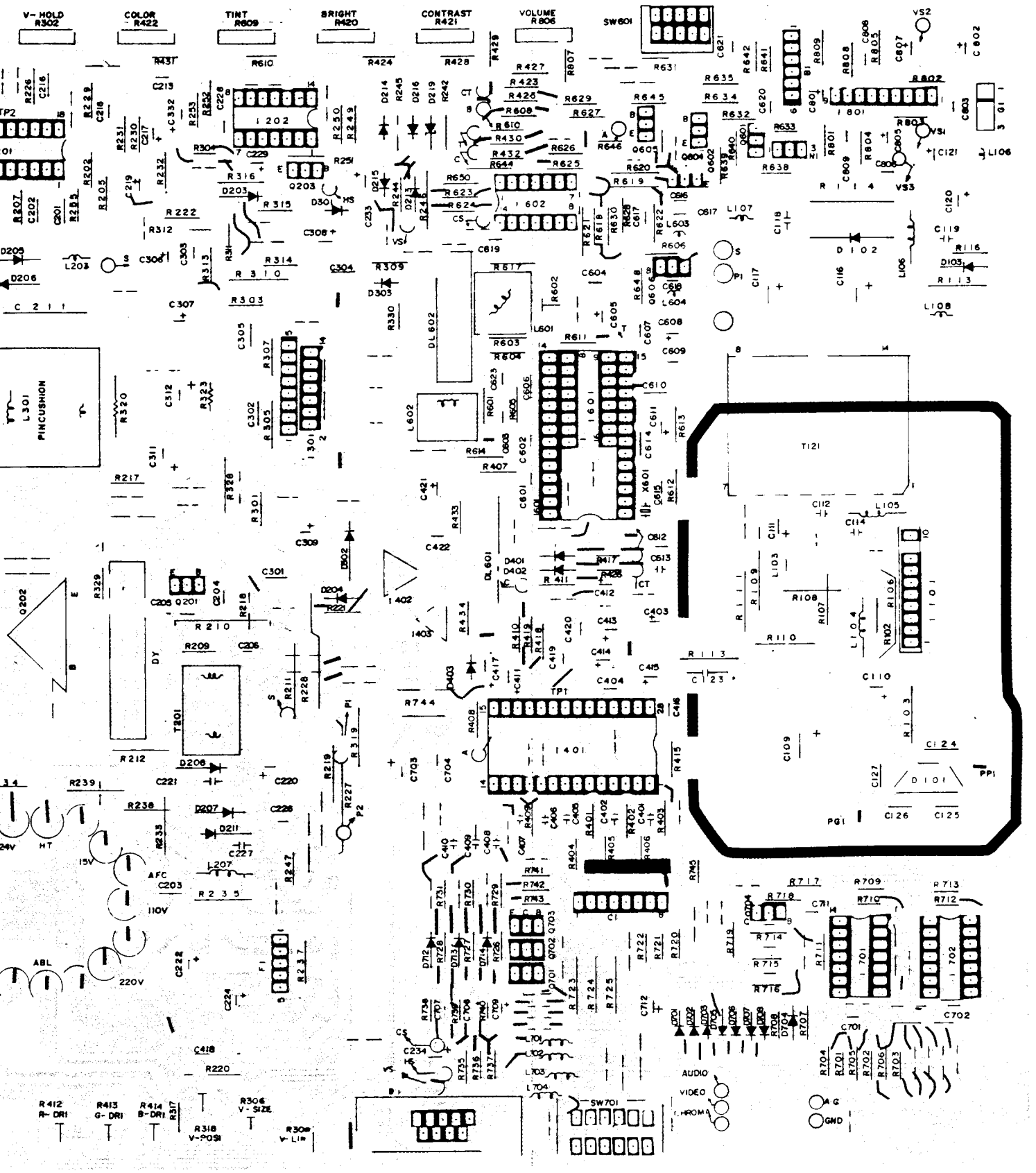
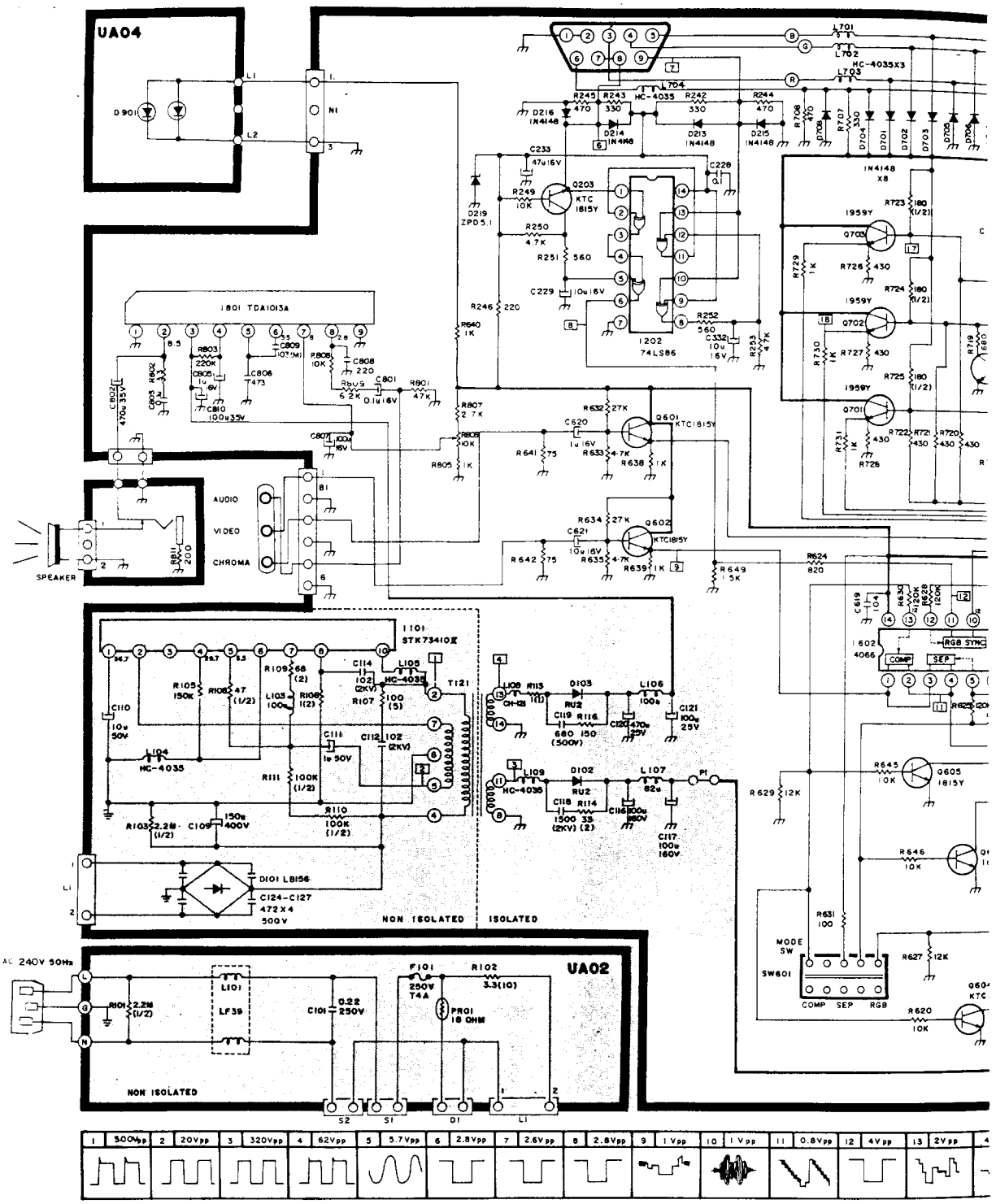


Fig. 23-b Bottom View

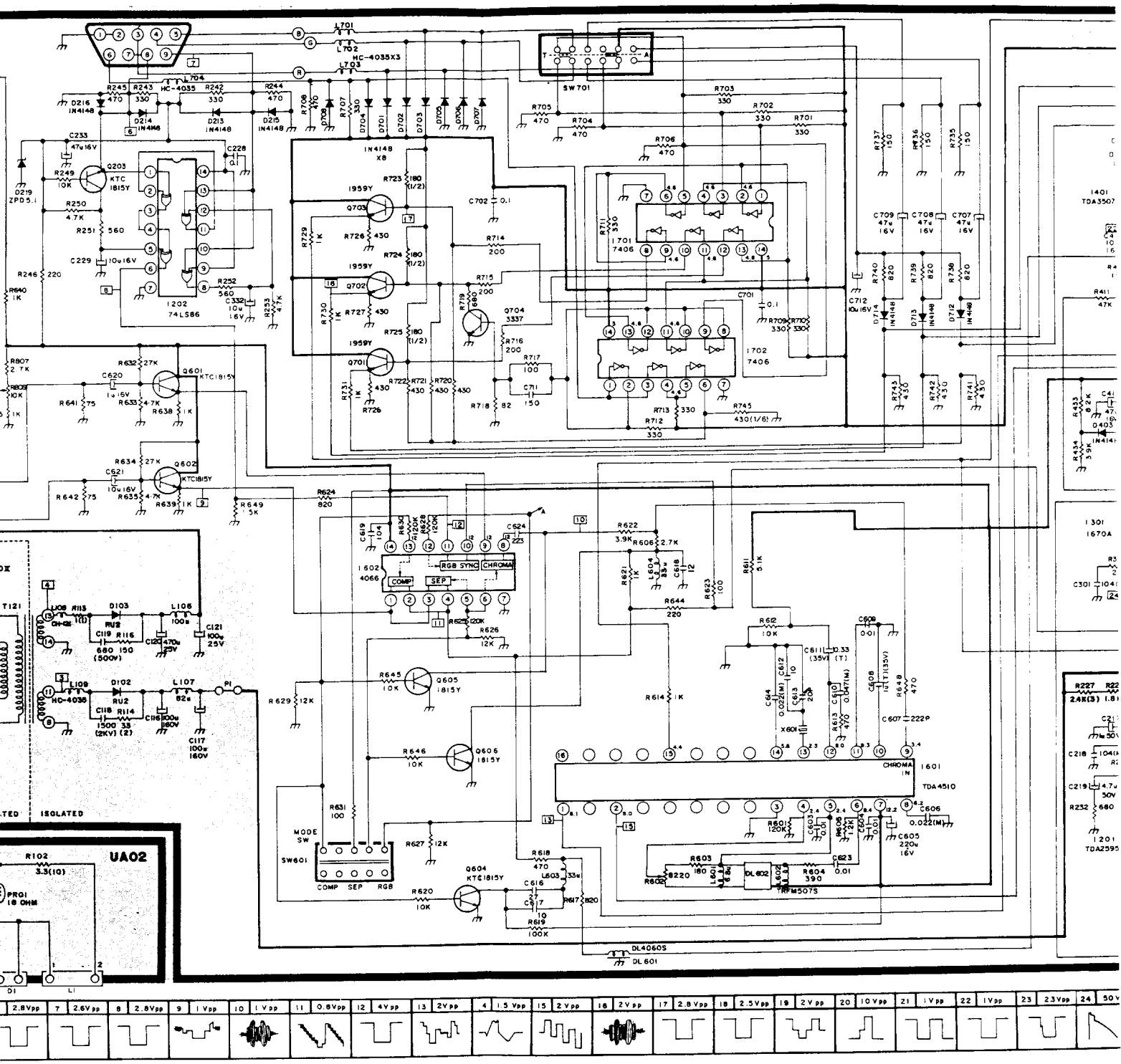
SCHEMATIC DIAGRAM (MODEL CMC-1

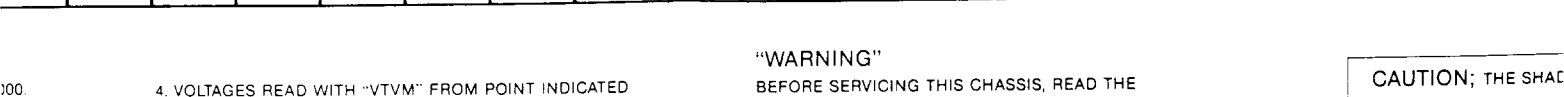


NOTE

1. RESISTANCE IS SHOWN IN OHM, K=1,000, M=1,000,000.
2. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITOR VALUES LESS THAN 1 ARE EXPRESSED IN mfd AND THE VALUES MORE THAN 1 IN pF.
3. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL INDUCTOR VALUES MORE THAN 1 ARE EXPRESSED IN uH AND THE VALUES LESS THAN 1 IN H.
4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND USING A COLOR BAR SIGNAL WITH ALL CONTROLS AT NORMAL · LINE VOLTAGE 120 VOLTS AC.
5. VOLTAGE READINGS SHOWN ARE NOMINAL VALUES AND MAY VARY ±20% EXCEPT H.V.
6. THIS CIRCUIT DIAGRAM IS A STANDARD ONE. CIRCUITS PRINTED MAY BE SUBJECT TO CHANGE FOR PRODUCT IMPROVEMENT WITHOUT PRIOR NOTICE.

RAM (MODEL CMC-146PRI) CHASSIS: A-16-2





4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND. USING A COLOR BAR SIGNAL WITH ALL CONTROLS AT NORMAL • LINE VOLTAGE 120 VOLTS AC.
5. VOLTAGE READINGS SHOWN ARE NOMINAL VALUES AND MAY VARY ±20% EXCEPT H.V.
6. THIS CIRCUIT DIAGRAM IS A STANDARD ONE. CIRCUITS PRINTED MAY BE SUBJECT TO CHANGE FOR PRODUCT IMPROVEMENT WITHOUT PRIOR NOTICE.

"WARNING"

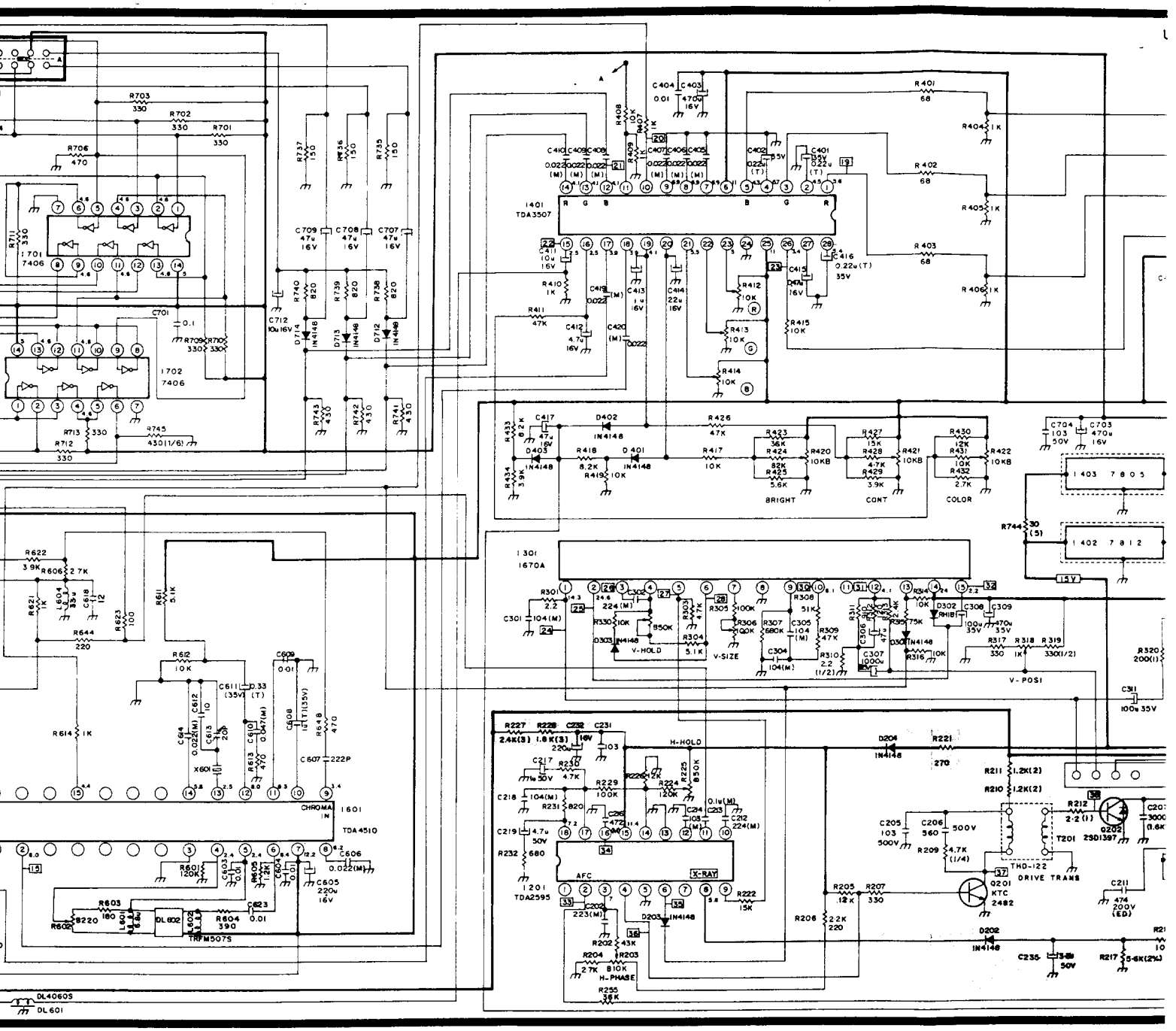
BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL.

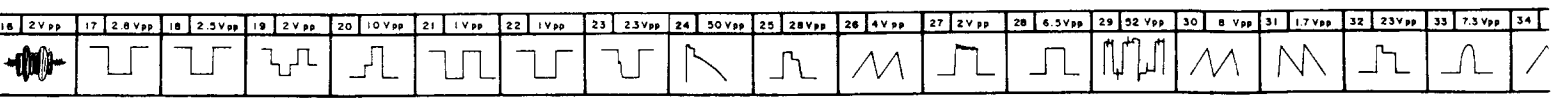
CAUTION TO THE SERVICE TECHNICIALS;

BEFORE RETURNING THE RECEIVER TO THE CUSTOMER, TO MAKE APPROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

CAUTION; THE SHAD
DIRGRAM DESIGNATE C
SPECIAL CHARACTERIS
AND SHOULD BE REPLA
IDENTICAL TO THOSE IN
OR SPECIFIED IN THE F
DO NOT DEGRADE THE
THROUGH IMPROPER S

) CHASSIS: A-16-2



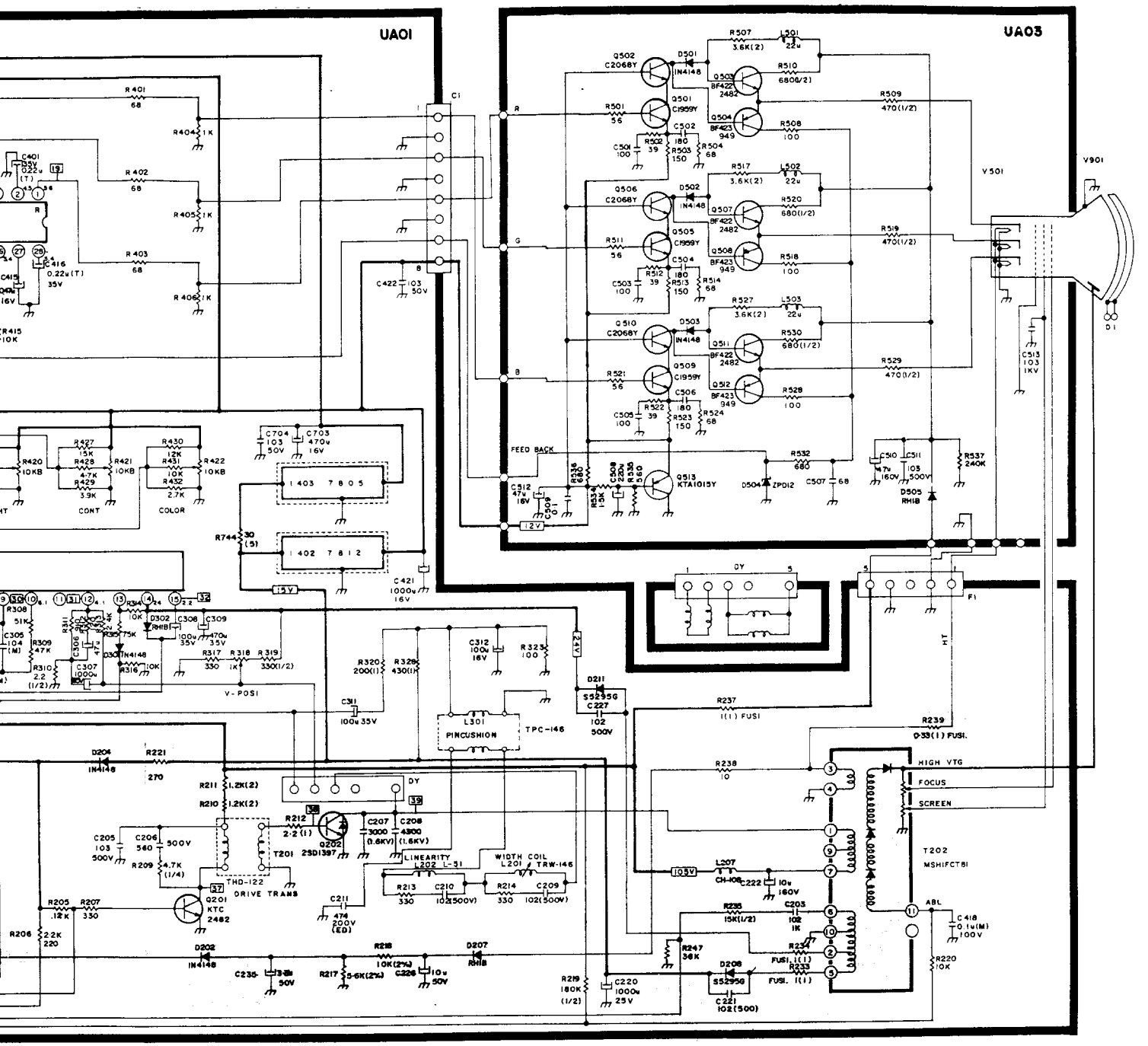


NG"
SERVICING THIS CHASSIS, READ THE
DIATION PRECAUTION", "SAFETY PRECAUTION"
ODUCT SAFETY NOTICE" IN THE SERVICE MANUAL.

N-TO THE SERVICE TECHNICIALS;
RETURNING THE RECEIVER TO THE CUSTOMER,
APPROPRIATE LEAKAGE CURRENT OR RESISTANCE
MENTS TO DETERMINE THAT EXPOSED PARTS
PERLY INSULATED FROM THE SUPPLY CIRCUIT.

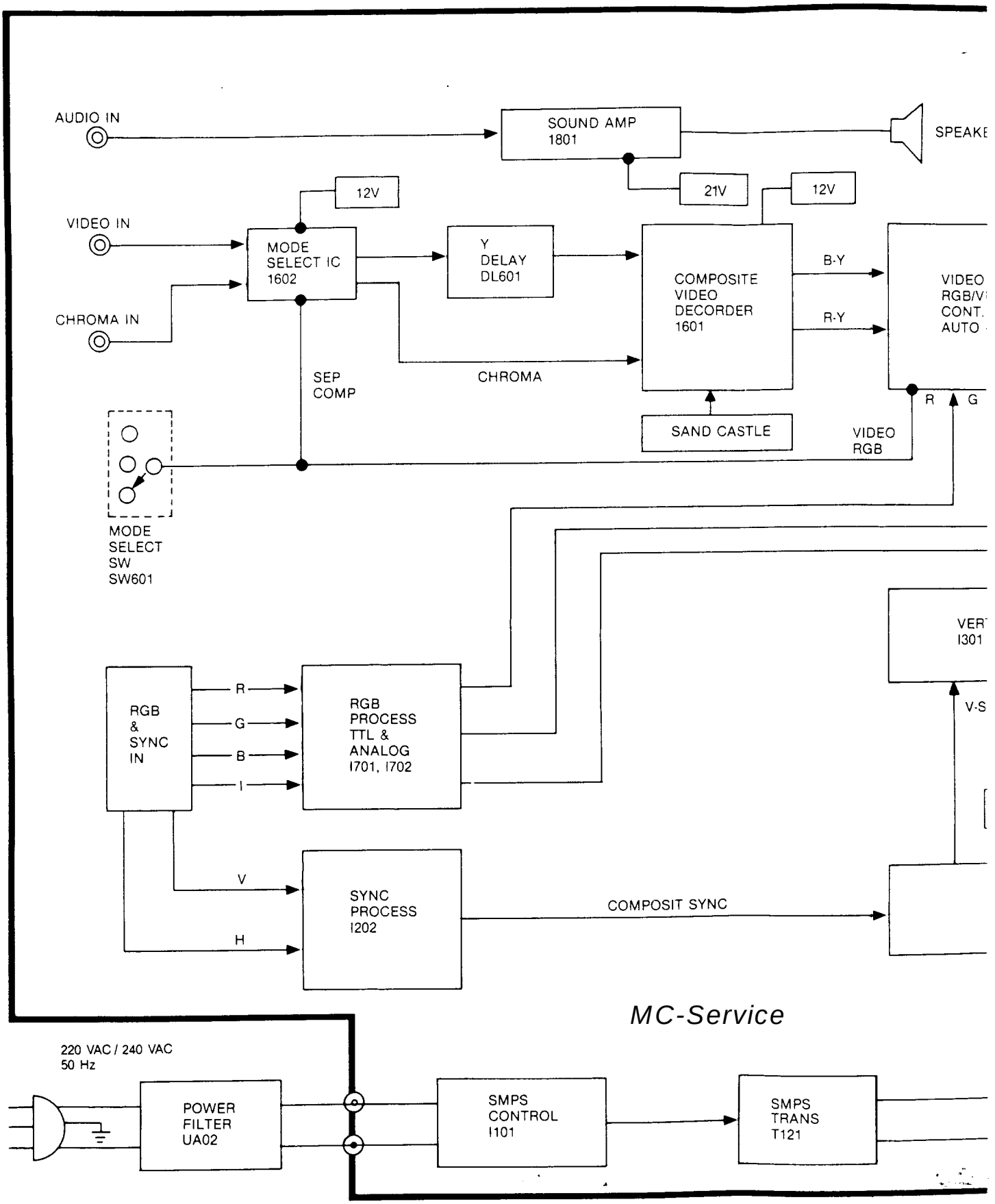
CAUTION; THE SHADED ARE AS IN THE SCHEMATIC DIRGRAM DESIGNATE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST.
DO NOT DEGRADE THE SAFETY OF THE RECEIVER THROUGH IMPROPER SERVICING.

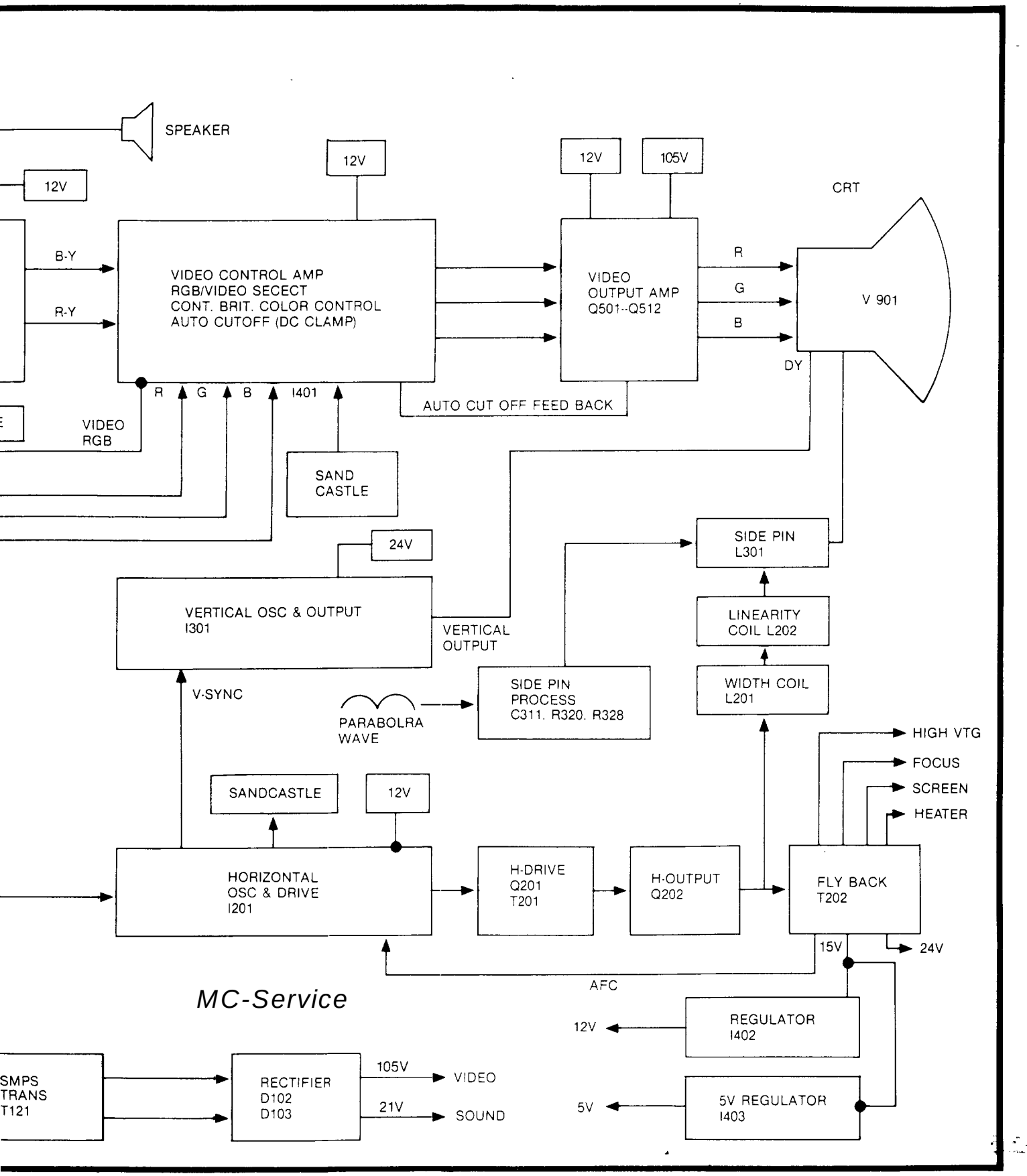
MC-Service



28 5Vpp	29 52 Vpp	30 6 Vpp	31 1.7 Vpp	32 23Vpp	33 7.3 Vpp	34 4Vpp	35 10 Vpp	36 1.5 Vpp	37 140Vpp	38 11Vpp	39 900Vpp

BLOCK DIAGRAM OF C-16 CHASSIS




SPEAKER
12V
12V
12V
105V
CRT
B-Y
R-Y
VIDEO CONTROL AMP
RGB/VIDEO SECECT
CONT. BRIT. COLOR CONTROL
AUTO CUTOFF (DC CLAMP)
VIDEO
OUTPUT AMP
Q501--Q512
R
G
B
V 901
DY
R
G
B
I401
AUTO CUT OFF FEED BACK
VIDEO
RGB
SAND
CASTLE
24V
SIDE PIN
L301
VERTICAL OSC & OUTPUT
I301
VERTICAL
OUTPUT
LINEARITY
COIL L202
WIDTH COIL
L201
V-SYNC
PARABOLRA
WAVE
SIDE PIN
PROCESS
C311. R320. R328
HIGH VTG
FOCUS
SCREEN
HEATER
SANDCASTLE
12V
HORIZONTAL
OSC & DRIVE
I201
H-DRIVE
Q201
T201
H-OUTPUT
Q202
FLY BACK
T202
15V
24V
AFC
MC-Service
12V
REGULATOR
I402
SMPS
TRANS
T121
RECTIFIER
D102
D103
105V
VIDEO
21V
SOUND
5V
5V REGULATOR
I403